

**ASSESSMENT OF
THE WASTEWATER
TREATMENT DIVISION'S
PRODUCTIVITY INITIATIVE
PILOT PROGRAM**



King County

Presented to
the Metropolitan King County Council
Government Accountability and Oversight Committee
by the
County Auditor's Office
and
FCS Group

Report No. 2011-01
March 15, 2011



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King County

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MEMORANDUM

DATE: March 15, 2011

TO: Metropolitan King County Councilmembers

FROM: Cheryle A. Broom, ^{CB}County Auditor

SUBJECT: Final Report – Assessment of the WTD Productivity Initiative

Attached is the final report assessing the effectiveness of the Wastewater Treatment Division (WTD) Productivity Initiative which responds to Ordinance 14941. It requires a review of the ten-year productivity initiative by an independent third party supervised by the King County Auditor's Office with input from WTD. Our office contracted with the consulting firm, FCS Group, to provide an assessment of the program.

The purpose of the review was to determine how effective the operational component of the productivity initiative has been in achieving the program's goals and objectives. The scope of the assessment also included an analysis of WTD's internal assessment of the productivity initiative and to report specifically on areas where the consultant's assessment of the effectiveness of the productivity initiative differs from WTD's internal assessment. The ordinance requires the assessment be completed in 2010. Our final report was delayed because we did not receive a draft of WTD's internal assessment of the program until January 18, 2011, and we needed to have subsequent meetings with WTD.

This report contains 15 observations and conclusions about the program. Overall, WTD's productivity initiative achieved efficiencies and cost savings but as the ten-year effort progressed, it was less successful in sustaining performance on goals related to quality, customer service, and employee management. Much of the cost savings were salary related which raise questions about what should be considered and counted as savings and whether the Program should differentiate between cost containment versus productivity savings.

Key observations include:

- WTD has implemented many cost saving practices and ideas, some of which were innovative or best practices, but many were ones that could be expected from an organization focused on continuous improvement and efficiency.
- WTD's cost per million gallons treated was initially high but has improved relative to its peer agencies since 2001. Although its total costs have been rising, WTD's operating and maintenance costs have remained generally stable, and these costs have been slightly decreasing over the past five years.

- Most of the savings to meet the operating target have been from salary savings; however, these are not long-term productivity savings but represent a cost containment measure used to help WTD meet its target. There are now very few cost increases that are considered to be within WTD's control except for the original baseline in 2001. After ten years of program implementation, these issues raise questions about what should be considered and counted as savings and whether such savings are sustainable over a ten-year period.
- FCS Group's assessment of the productivity initiative agreed with WTD's internal assessment in a number of areas but differed over whether rate increases kept pace with inflation and whether WTD met selected measures related to permit compliance, customer focus, and employee management.

In commenting on the report, the County Executive stated the review will be useful in developing recommendations for a potential new productivity program. He also provided comments on several observations and conclusions, especially related to WTD's efforts to control operational costs and achieve balanced scorecard goals during the latter years of the initiative.

The King County Auditor's Office sincerely appreciates the professionalism of our independent consultants, Peter Moy and Nathan Reese from the FCS Group, and the cooperation received from the management and staff of the Wastewater Treatment Division in completing the assessment.

CB:BE:lo

Attachment



King County

Assessment of the Wastewater
Treatment Division's Productivity
Initiative Pilot Program

FINAL REPORT

February 2011



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February 22, 2011

Ms. Cheryle Broom
King County Auditor
King County Auditor's Office
516 Third Avenue Room W1033
Seattle, Washington 98104-3272

Subject: Assessment of the Wastewater Treatment Division's Productivity Initiative

Dear Ms. Broom:

Enclosed is a copy of our final report. We formatted the report to include an executive summary and have organized our findings as highlighted observations with the appropriate discussion following the observation.

We want to thank Brian Estes from your office and WTD staff (Timothy Aratani, Maryann Ness, Marissa Tsaniff, and Dave White) for all their assistance in helping us gather information and in organizing our various meetings. We look forward to presenting the report before the King County Council's GAO Committee on March 15, 2011.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Moy". The signature is fluid and cursive, with the first name "Peter" and last name "Moy" clearly distinguishable.

Peter Moy
Principal

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EXECUTIVE SUMMARY

More than a decade ago, King County's Wastewater Treatment Division (WTD) began planning a Productivity Initiative Pilot Program that would lead WTD on a path to achieve a vision that would provide King County residents with a wastewater program that did the following:

- ◆ Used private sector models to improve management and cost efficiencies,
- ◆ Maintained historical performance in complying with applicable local, state, and federal regulations,
- ◆ Was recognized as the most efficient and productive publicly owned wastewater utility in the country, and
- ◆ Provided savings to the public and worked collaboratively with labor.

In 2001, the King County Council adopted a motion that endorsed the Productivity Initiative Pilot Program, and in 2004 the County Council confirmed its support and modifications to the Program by passing Ordinance 14941. As part of the ordinance, an independent review of the Program was authorized before the Program ended in 2011. FCS GROUP performed this independent review of the operational component of the initiative under the direction of the King County Auditor's Office.

Overall Assessment

Early on, WTD's productivity initiative achieved greater efficiencies and cost savings, but as the ten-year effort wore on, it was less successful in sustaining performance on goals related to quality, customer service, and employee management. WTD has implemented many cost saving practices and ideas, some of which were innovative or best practices, but many were ones that could be expected from an organization focused on continuous improvement and efficiency. Compared to peer agencies, WTD's costs per million gallons treated was initially high but has improved relative to its peer agencies since 2001. Most of the savings to meet the operating target have been from salary savings. However, these are not long-term productivity savings but represent a cost containment measure used to help WTD meet its target. There are now very few cost increases that are considered to be within WTD's control except for the original baseline costs in 2001. After ten years of program implementation, these issues raise questions about what should be considered and counted as savings and whether such savings are sustainable over a ten-year period. FCS GROUP's assessment of the productivity initiative agreed with WTD's internal assessment in a number of areas but differed over whether WTD met selected measures related to permit compliance, customer focus, and employee management. FCS GROUP made the following specific observations and conclusions concerning the Program's effectiveness:

Effectiveness of the Initiative's Operational Component

WTD achieved many program goals during the first half of the initiative, especially those related to efficiency and cost savings. The Program reduced costs and initially met many of its business practice performance targets. Based on its staffing levels in 2000, WTD has been able to operate two additional treatment plants without increasing the 2000 staffing level and expects to operate the Brightwater treatment plant within the 2000 staffing level as well. It has been less successful in sustaining its initial performance involving quality and other customer and employee related goals in the latter years of the initiative.

Ratepayer Impacts

The portion of WTD's rate devoted to its operating and maintenance costs has increased at about the same rate as Seattle's consumer price index. Depending on how much non-rate revenue is allocated to operating and maintenance costs, the 2009 rate difference is slightly below or above the inflated 2000 estimated rate. For the ten-year period WTD has kept the portion of its operating rate close to the rate of inflation and the initial Regional Wastewater Services Plan forecasts. However, the operating portion of the rate increased lower than inflation for the 2001-2005 period, but from 2006 to 2009, the operating portion of the rate has exceeded the Seattle area's inflation rate.

Adoption of Private Sector and Industry Best Practices

WTD has identified and implemented many cost saving practices and ideas. Some have been innovative, best practices, and good management, but most of the practices and ideas are ones that can be expected from an organization focused on continuous improvement and efficiency, which was a goal of the Program. Compared to peer agencies, WTD's initial total cost per million gallons treated was high but has improved relative to its peer agencies since 2001. WTD started out in 2002 as the agency with the highest or second highest operating and maintenance costs, but by 2009 WTD's costs were at the lower or mid-range levels. Comparisons with some privately operated plants of different sizes showed WTD's costs are higher than the small sample of privately operated plants; however, a more discrete analysis is needed to draw any definitive conclusions due to limitations with available data.

Cost Targets, Assumptions, and Adjustments

Most of the savings to meet the operating target have been from salary savings—savings needed to enable WTD to meet its operating targets. Because temporary salary savings help reduce expenditures to meet the operating target and are eligible as employee savings for the Incentive Fund, these savings are not long-term productivity savings but represent a cost containment measure that can be used to help WTD meet its target.

A primary focus of the Productivity Initiative has been a comparison of operating costs, not total costs, to an adjusted operating target that is used to determine if there are savings that can be divided between the ratepayers and the employee Incentive Fund. There are now very few cost increases that are considered to be within WTD's control except for the original baseline established at the beginning of the Program in 2001. Since the planned savings were implemented by 2005 and the C-7 changes (changes to the target setting process) were made in 2006, operating targets have been continually increasing compared to earlier in the Program. Thus, after ten years of implementing the program, several key questions arise about what should be considered and counted as savings and whether or how the Program should differentiate cost containment versus productivity savings.

Employee Incentive Fund

The Incentive Fund has been used primarily for employee payouts and to cover deficits in two of the nine years. As previously noted, WTD met its performance standards between 2001 and 2005, but since 2006, it has not been meeting all of its performance standards. As a result, a number of performance penalties have been assessed against the Incentive Fund before any employee payouts have been made.

WTD's Internal Assessment of the Program

FCS Group's assessment of the productivity initiative agreed with WTD's January 2011 draft internal assessment in a number of areas but there were also differences related to whether rate increases kept pace with inflation and whether selected business practice targets and balanced scorecard measures were met, especially those related to permit compliance, customer focus, and employee management, (see Exhibit 35 for details).

CHAPTER I: INTRODUCTION

To reaffirm and clarify its intent about the Wastewater Treatment Division's (WTD) Productivity Initiative Pilot Program, the King County Council passed Ordinance 14941 on June 14, 2004. The ordinance required a review of the productivity initiative by an independent third party to be completed no later than December 31, 2010 before the productivity initiative expires in April 2011. The review was to be supervised by the King County Auditor's Office with input from WTD. The purpose of the review was to determine how effective the productivity initiative has been in achieving the program's goals and objectives. In May 2010, the King County Auditor's Office issued a Request for Proposals to perform the independent review. The scope of the review focused on determining the following:

- ◆ How effective has the operational component of the Program been compared to the initial goals and objectives and the operational cost savings and efficiencies achieved to date? Were the initial assumptions and budget savings targets as well as any subsequent changes reasonable?
- ◆ How effective has WTD been in applying private-sector business and wastewater industry best practices to improve the management and operations of the utility?
- ◆ Has WTD's internal assessment of the Program been objective and accurate?
- ◆ Has the use of the employee incentive funds been consistent with Ordinance 14941?

FCS GROUP was selected by the King County Auditor to perform the review. To assist in the review's technical aspects and to assess private industry practices, FCS GROUP included on its team Veolia Water North America, a private wastewater treatment operator. A work plan for the review was developed, and the approach included the following elements:

- ◆ Interviewing WTD and other county staff,
- ◆ Touring the two wastewater treatment plants,
- ◆ Reviewing financial reports and rate information,
- ◆ Reviewing Program documentation, such as the annual reports,
- ◆ Analyzing the Program's annual financial target calculations and methodologies,
- ◆ Evaluating savings attributed to the Program,
- ◆ Conducting a benchmarking survey of similar public agencies and private sector facilities,
- ◆ Reviewing the uses and associated transactions of the employee incentive funds, and
- ◆ Reviewing program performance information, such as the balanced scorecard.

This work would not have been possible without the support and cooperation of county staff. We would especially like to thank Timothy Aratani, Maryann Ness, Marissa Tsaniff, and Dave White from WTD, and Brian Estes from the auditor's office for their assistance with this review.

PRODUCTIVITY INITIATIVE BACKGROUND

The framework for the Wastewater Treatment Division's (WTD) Productivity Initiative Pilot Program began in 1999 when an interim steering committee defined the goals, vision, and guiding principles of the productivity initiative and when WTD hired a consultant to help review the organization, develop a strategy, and craft an approach to the pilot program plan. Once the plan was completed, the King County Council adopted Motion 11156 in April 2001 endorsing the productivity initiative for the operations and maintenance of the wastewater conveyance and treatment system. The motion stated that the productivity initiative's purpose was to save the ratepayers money while continuing a high-quality operation of the county's wastewater utility. The motion identified a number of reasons for the productivity initiative and included the following:

- ◆ an increasing public demand for demonstration that sewer rates were being held as low as possible,
- ◆ the success of the Gainsharing¹ program in identifying savings and operational efficiencies by offering incentives to eligible employees to save money,
- ◆ the wastewater program's vision of becoming the best public wastewater program in the nation in five years with a balanced combination of the best service, best employer, best employees, and cost effectiveness, and to be competitive with the best of the private service providers in ten years, and
- ◆ use of private sector models to improve management of public sector utility, improve cost efficiencies, provide savings to the public, define target budgets and accountability measures for meeting those targets, and continue working collaboratively with labor and allow employees to be creative in meeting the vision of becoming the best wastewater program.

As part of the motion, a number of parameters were also identified for the productivity initiative.

- ◆ perform all of the functions historically performed and comply with all applicable local, state, and federal regulations,
- ◆ implement the initiative in a manner that does not lower or compromise effluent quality or employee safety,
- ◆ implement the initiative consistent with relevant negotiated labor agreements, and
- ◆ generate costs savings without the use of involuntary layoffs.

In June 2004, the County Council passed Ordinance 14941 clarifying participation of represented bargaining units in the Wastewater Treatment Division, codifying the productivity initiative, extending the initiative to major capital projects, the asset management program, and small in-house construction projects, and creating the employee awards program. Ordinance 14941 formally adopted the productivity initiative and required that the County Executive develop and implement a productivity initiative that involved the following:

- ◆ implementing business plans,
- ◆ meeting annual budget targets,

¹ A Gainsharing Program is defined as an incentive plan in which employees or customers (ratepayers) receive benefits directly as a result of cost-saving measures that they initiate or participate in.

- ◆ creating an incentive fund,
- ◆ continuing to work collaboratively with labor, and
- ◆ developing service agreements with county support agencies and modifying certain internal wastewater program administrative policies.

The ordinance states that the goals of the productivity initiative are the following:

- ◆ Continue providing high quality wastewater treatment and conveyance services to the region,
- ◆ Use private sector models to improve management of the wastewater program,
- ◆ Improve cost efficiencies,
- ◆ Provide savings to the public,
- ◆ Define target budgets and accountability measures for meeting those targets,
- ◆ Continue working collaboratively with labor, and
- ◆ All employees to be creative in meeting the vision of becoming the best wastewater program.

The Productivity Initiative Pilot Program consists of four elements where productivity and cost savings are monitored: the operating program, the capital improvement program, the asset management program, and small in-house capital construction projects. Based on the King County Auditor's Office scope of work, this assessment focused on the operating program element. Although management and labor collaboration is a key element of the program, the primary focus of the Program involves implementing planned savings identified in the program plan by 2005 and achieving additional cost savings by operating at or below the annual expenditure target. All of this must occur without sacrificing WTD's service level performance and compliance with federal and state regulations.

Another key element of the Program included establishing a productivity incentive fund that would provide motivation for employees to find additional savings beyond the initial planned savings. Each year if WTD operates below an established expenditure target, 50% of any savings created by the employees is added to the incentive fund and can eventually be paid to the employees or be used for other approved purposes.

CHAPTER II: THE EFFECTIVENESS OF THE PROGRAM'S OPERATIONAL COMPONENT

As part of the 2001 Productivity Initiative Pilot Program Plan, the Productivity Steering Committee adopted the initiative's goals, vision, and guiding principles as the policy statement for providing staff direction in developing program elements. The goal for the initiative was "to become recognized as the most efficient and productive publicly owned wastewater utility in the country by 2005, and to be competitive with any privately operated wastewater utility by 2010." In addition to the overall goal, the five-year vision provides some benchmarks to measure the effectiveness of the program's operational component. The five-year vision included the following elements:

- ◆ Quality – Maintain and improve treatment, effluent, and biosolids quality. No violations and no unpermitted overflows or bypasses.
- ◆ Efficiency – Hold the portion of the sewer rate dedicated to ongoing operations to less than or equal to current levels after adjusting for inflation.
- ◆ Productivity – Are nationally recognized for our productivity and actively share our experience with others in our industry.
- ◆ Safety – Operate the safest wastewater treatment system in the nation.
- ◆ Collaboration – Work efficiently across all functional areas in the division and department. Have excellent support systems, and work collaboratively with support services for other King County departments.
- ◆ Clarity of Purpose – Have clearly established goals and how to achieve them. Are clear about roles and responsibilities to achieve our goals.
- ◆ Customer Service – Customers value the service we provide. WTD is responsive to customer concerns and needs.
- ◆ Workplace – Business teams have clear work plans and are actively pursuing those plans. Is knowledgeable about the "big picture" and our customers' interests. Creativity is encouraged. Turnover is minimal. Management works collaboratively with unions and non-represented employees.
- ◆ Employee Satisfaction – Have a high level of employee involvement in all areas of our operation. Employees feel they are doing productive work and are rewarded and recognized. Employees take pride and ownership in a job well done. Everyone is heard and no one fears retribution for speaking openly.

Based on this vision, Ordinance 14941 stated that the goals for the productivity initiative were the following:

- ◆ Continue providing high quality wastewater treatment and conveyance services to the region,
- ◆ Improve cost efficiencies,

- ◆ Provide savings to the public,
- ◆ Use private sector models to improve management of the wastewater program,
- ◆ Define target budgets and accountability measures for meeting those targets,
- ◆ Continue working collaboratively with labor, and
- ◆ All employees to be creative in meeting the vision of becoming the best wastewater program.

Based on the scope of work, the limited project budget, and the subjective nature of many of the vision elements and goals, FCS GROUP did not assess all vision elements and goals, but primarily concentrated on WTD's effectiveness in meeting the elements that have had measurable results and readily available data, such as the quality and efficiency elements which clearly provide some benchmarks that can be assessed. A key element of the Program was to define the balanced scorecard and to use it as a way to monitor WTD's performance, make adjustments, and proactively change the organization over time. Performance indicators were identified for a variety of areas that relate to several of the vision elements. WTD's annual balanced scorecard results were reviewed and were used to assess the progress made on many of the vision elements.

PROGRESS ON ACHIEVING OPERATIONAL GOALS AND VISION

Providing High Quality Services

Observation 1: WTD generally met its five-year goal to maintain and improve treatment, effluent, and biosolids quality from 2001 through 2005 without any violations and no unpermitted overflows or bypasses. WTD's balanced scorecard targets for effluent quality were met in every year, and the overall quality of effluent has improved over the course of the Program. However, since 2006 violations have occurred in three out of the four years for NPDES permit compliance (2006, 2008, and 2009). Since 2006, compliance with the air quality permit has steadily decreased and the number of avoidable sanitary sewer overflows has significantly increased. WTD contends that some violations and overflows were due to changes in regulations, weather events, or unanticipated infrastructure problems but, despite such changes, WTD has not changed its performance target.

The "Quality" element of the five-year vision was to maintain and improve treatment, effluent, and biosolids quality and have no violations and no unpermitted overflows or bypasses. As part of the Program, a balanced scorecard was created to help WTD measure its own performance by monitoring how well the programs and strategies were working. WTD set high standards for all of its categories consistent with its effort to be the best public wastewater program in the nation. Data on over 30 balanced scorecard performance measures was collected and reported annually as part of the Productivity Initiative Annual Reports. These included measures for areas related to permits, treatment, and effluent quality such as:

- ◆ Permit Compliance,
- ◆ Operations, and
- ◆ Effluent Non-Degradation.

Each year, the performance measurement data were collected and compared to their annual performance targets. A list of the balanced scorecard measures and related data for 2001 through 2009 can be found in Appendix A. A review of the balanced scorecard information provided by WTD

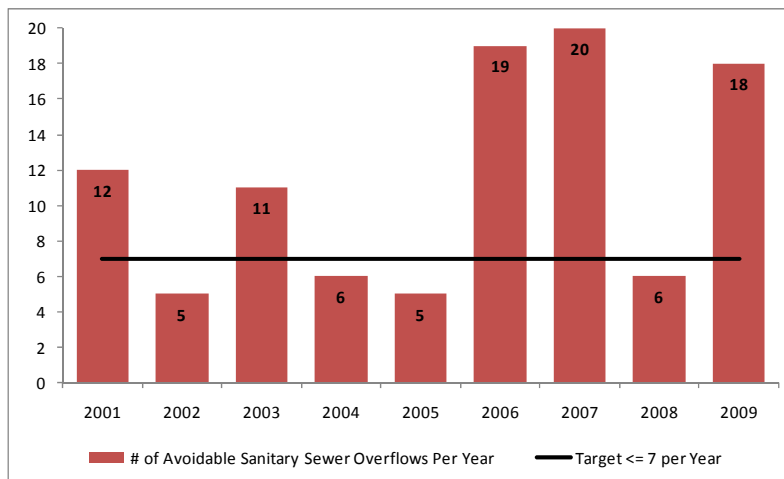
staff from 2001 through 2005 found that WTD generally met or exceeded its performance targets related to permit compliance, operations, and effluent non-degradation. This included:

- ◆ Permit Compliance – The three NPDES and air quality permit compliance measures did not meet their targets of 100% for some of the years between 2001 and 2005. However, NPDES targets were missed by less than 1.0%, and during these years no permit violations occurred that resulted in a financial penalty to the Incentive Fund for not meeting the Program's performance guarantees.
- ◆ Operations – The four operations measures met their targets for 2001 through 2005 except for 2001 and 2003, when the targets for wet weather overflows and avoidable sanitary sewer overflows were exceeded.
- ◆ Effluent Non-Degradation – The three effluent non-degradation measures beat their targets for 2001 through 2005. Two of the three measures also improved over this time period.

A review of balanced scorecard information and related Productivity Initiative Annual Reports for 2006 through 2009 found violations in permit compliance for 2006, 2008, and 2009. Observations for permit compliance, operations, and effluent non-degradation included the following:

- ◆ Permit Compliance – WTD met its target from 2006-2009 for effluent limits; it never met the target for reporting compliance before dropping the measure in 2008. There were, however, permit violations that occurred in 2006, 2008, and 2009, but these did not seem to affect the results in the balanced scorecard. For air quality compliance, WTD did not meet its target three out of four years, and the percent compliance with the air quality permit fell from 100% in 2006 to 92.3% in 2009. According to WTD, targets were not met due to changes in the regulatory environment, weather events, or unanticipated problems with infrastructure rather than any decrease in operational service levels or regulatory diligence. Specifically, in the middle part of the last decade WTD began operating the Elliot West and Henderson combined sewer overflow (CSO) facilities that initially experienced some problems in their first few years of operation. In addition, during the last decade WTD's existing CSO facilities (at Alki and Carkeek) became subject to additional regulatory requirements that added to the compliance requirements. Regarding the air permit, WTD indicated that staff had been unaware of the violation of the air permit prior to its identification by the permitting authority in 2009 and is now taking steps to address the cause of the violation.
- ◆ Operations – The frequency of avoidable sanitary sewer overflows increased significantly, and the target was not met in three out of the four years from 2006 through 2009. This information is displayed below in Exhibit 1. While the annual avoidable sanitary sewer overflows averaged 7.8 per year for 2001 through 2005, they averaged 15.8 per year for 2006 through 2009. According to WTD, the increase in avoidable sewer overflows is largely due to unpredictable events associated with equipment failures and power outages. WTD believes the pattern of overflows represents inherent variability rather than a trend and that it has taken steps to address the cause of the overflows.

Exhibit 1
Number of Avoidable Sanitary Sewer Overflows per Year



Source: WTD Balanced Scorecard Results 2001-2009

- ◆ Effluent Non-Degradation – WTD beat the three effluent non-degradation target measures while their targets based on 2009 data showing improvement over 2001 levels for all three measures.

There were no balanced scorecard measures directly related with biosolids quality. The percent of biosolids recycled was measured by the balanced scorecard from 2001 through 2009. However, it should be noted that biosolids quality is inherent in the measure of “the percent of biosolids recycled.” In order to be recycled, biosolids must meet a regulatory-defined quality standard. The target of 100% was met for every year of the program. During the Program, the dryness of biosolids was also increased through the adoption of high-speed centrifuges as part of the business plan. According to treatment plant staff, they could get a drier biosolids product using centrifuges in place of a belt press.

Improving Cost Efficiency

Observation 2: Based on WTD's 2000 costs, implementing the planned business savings from the Productivity Initiative Pilot Program Plan reduced cost growth by less than inflation for 2005 as part of WTD's effort to be comparable to a private operator's costs. WTD and its employees were also able to achieve additional cost savings in seven of the nine years based on the established operating targets and the related actual expenditures.

One of the initial reasons for the Productivity Initiative was the trend toward having public wastewater facilities operated by private businesses instead of public employees. As part of the planning process, WTD's consultant initially estimated that a private operator would cost 20% less than WTD's 2000 costs. After reviewing WTD's programs and considering WTD's current practices and the efficiencies already made as a result of the Gainsharing program, the target cost reduction developed by the consultant and WTD staff was established at 12% by 2005. According to WTD it beat its 2005 adjusted target of \$67,785,872 by \$2,551,888. Since this target was adjusted it is assumed that if the target was met in 2005, then the 12% savings goal was achieved.

Because WTD did not calculate the 2005 status quo costs, an estimate was needed to check if WTD met its 12% goal. To determine whether the target reduction was met in 2005, the costs for 2000 needed to be adjusted to reflect inflation, changes in demand, additional work not part of the 2000 budget, and business plan savings. WTD's adjusted 2005 operating actual expenditures (\$65,233,984) were compared to three estimates of what WTD's costs could have been in 2005. These three estimates as shown in Exhibit 3 were based on the adjusted 2000 operating budget because WTD did not calculate a 2005 status quo budget or audit WTD's figures. The adjusted

amounts for 2000 and 2005 were provided by WTD staff, and are shown below in Exhibit 2. The adjustment included removing all central charges except for fleet replacement and telecom, and adding in the costs of the Environmental Lab as well as Industrial Waste for 2000 (since they were not part of WTD at the time). This is the same adjustment that was used annually to compare actual expenditures to the target.

Exhibit 2
WTD Operating Expenditures: 2000 and 2005

	Unadjusted	Adjusted
2000 Operating Budget	\$ 80,175,012	\$ 62,631,729
2005 Operating Actuals	\$ 84,404,589	\$ 65,233,984

Source: WTD 2000 Base Budget Reconciliation and Key Financial Results
of the Productivity Initiative

The adjusted 2000 operating budget of \$62,631,729 was adjusted by three separate methods to estimate what costs would have been in 2005 without the planned savings. The three methods for estimating what the 2000 operating budget would be in 2005 were the following:

- ◆ Increase all costs by general inflation using the Seattle area consumer price index for urban wage earners (CPI-U),
- ◆ Increase costs based on specific adjustment factors as used in the Initiative's target setting process. Personnel budget costs were inflated by King County's COLA increases; budgeted costs for electricity, chemicals, and polymer were inflated by their actual year to year changes in price; and the remainder was inflated by CPI-U, and
- ◆ Add WTD's 2005 actual business plan savings to the 2000 adjusted operating budget.

To estimate savings the results were then compared to the adjusted 2005 operating actual expenditures of \$65,233,984. Regardless of the method used, it appears that WTD saved a significant amount of money by 2005 and costs grew at a rate less than inflation during that period. WTD beat general inflation (i.e., CPI-U) by 8.9% or \$5,810,868, and with the more specific inflation adjustments WTD's savings were 9.1% or 5,967,233. Based on the actual business plan savings, the savings were over the 12% goal at 12.9% or \$8,404,638 as shown in Exhibit 3.

Exhibit 3
Estimated Program Savings by 2005

	CPI-U Only	Specific Adjustments	2005 Business Plan Savings
Estimated 2000 costs in 2005 dollars	\$71,044,852	\$71,201,217	\$73,638,622
2005 Adjusted Actual Operating Expenditures	65,233,984	65,233,984	65,233,984
Estimated Savings	\$ 5,810,868	\$ 5,967,233	\$ 8,404,638
Percent Savings	8.9%	9.1%	12.9%

Source: 2001-2005 C-7 Target Adjustment Worksheets and 2001-2009 Business Plan Savings and FCS GROUP's Twelve Percent Target Analysis

One potential weakness in the methods used is that adjustments for changes in the number of residential customer equivalents (RCEs) over the period were not used. RCEs, however, were relatively stable from 2000 to 2005 with the 689,718 RCEs in 2005 being only 1% less than the 696,822 RCEs in 2000. RCEs represent the influent quantity. Although not all costs are variable, the

more RCEs, the more influent that must be treated, and as a result, treatment costs would be expected to also increase to some degree.

Besides the 12% target reduction goal, an annual target was established, and the documented savings or losses were reviewed and might be adjusted and applied to the Incentive Fund. Exhibit 4 shows the results for the past nine years as reported by WTD.

Exhibit 4
Target Performance and Documented Savings

Year	Adjusted Target	Actual Expenditures	Actual Under/(Over) Adjusted Target	Documented Savings/(Losses)
2001	\$78,030,000	\$68,898,000	\$9,132,000	\$2,762,000
2002	65,786,000	60,431,000	5,355,000	1,670,956
2003	61,628,000	60,687,000	941,889	941,889
2004	65,104,066	65,697,769	(593,704)	(593,704)
2005	67,982,193	65,233,984	2,748,209	1,445,306
2006	73,147,993	71,449,761	1,698,232	1,681,953
2007	75,084,414	75,666,677	(582,263)	(516,299)
2008*	79,047,389	77,498,207	1,549,182	1,569,796*
2009*	86,185,745	84,549,365	1,636,380	2,523,611*
Grand Total	\$ 651,955,800	\$ 630,111,763	\$ 21,884,925	\$ 11,485,508

*Although documented savings were greater than actual adjusted target savings, the documented savings were adjusted downward before determining the Incentive Fund contribution.

Source: WTD's Key Financial Results of the Productivity Initiative

Meeting Other Vision Elements

Observation 3: For many of the vision elements besides quality and efficiency, WTD's balanced scorecard results show that the performance targets for these other vision elements was not achieved, including customer service and employee satisfaction. Although the performance ratings are above average, WTD has never met its performance targets regarding employee satisfaction measures. In response, WTD contends that targets were set at very high levels and that its surveys had some inconsistencies and can be influenced by a variety of factors such as media attention, contract negotiations, and countywide budget or labor decisions.

Based on a review of the other balanced scorecard results that involved the other vision elements besides "Quality" and "Efficiency" that were covered in Observations 1 and 2, performance targets have generally not been met in areas of employee satisfaction and customer service. Data was collected by using customer and employee surveys, and such survey responses can be influenced by events or other issues occurring at the time of the surveys. However, the surveys did represent the customer and employee opinions of those that responded at that time. Exhibit 5 below summarizes FCS GROUP's comments on the trends and WTD's performance based on the targets it set for itself in the financial, resource recovery, customer, and employee areas.

Exhibit 5

Balanced Scorecard Performance Summary

Balanced Scorecard Measurement Area	FCS GROUP Comments on General Trends: 2001-2009
Financial	WTD met its operating target in seven of the nine years, and its debt service coverage ratio met its target for all nine years.
Business Practices	Targets generally met for biosolids and reclaimed water, but for digester gas recovery the performance target has not been met since 2006 due to the de-commissioning of the West Point co-generation facility in 2006 (this facility is now being rebuilt).
Customer	Most targets not met, and the trend appears to be worsening for three out of the five measures compared to scores in 2001.
Employee	Targets generally met for employee training. Targets generally met for employee safety. Targets never met for employee satisfaction.

Source: WTD Balanced Scorecard: 2001-2009

The following relates four of the vision elements to the measures from the balanced scorecard:

- ♦ Customer Service Element – For those that responded to the survey, the percentage of residents and businesses that saw WTD as a good neighbor has been generally lower over the past few years than at the beginning of the program, and the target for this measure has not been met since 2003. The local sewer agencies' rating of the quality of WTD's contract services and their satisfaction with WTD's customer service were generally lower over the past few years than at the beginning of the Program. A score of 4 is the performance target. The quality of WTD's services was rated at 4.08 (on a scale of 1-5) in 2001 and dropped to a low of 3.26 in 2006. In 2009 the rating was back up to 3.53. WTD noted that in 2006 WTD was negotiating the component agency contracts. For customer service the 2001 rating was 3.92 and dropped to a low in 2006 at 2.29. In 2009 the rating was back up to 3.83. In 2003 and 2004 WTD surpassed its goal with ratings of 4.08 and 4.25, respectively. According to WTD, in 2003 and 2004, customers across several county agencies were surveyed with the same survey instrument (not just WTD's), so comments reflect opinions of entities that are not WTD's direct customers, who may not have been familiar with the program. The targets for these measures have not been met since 2004. However, satisfaction with the Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) process has been increasing, and nearly met the target in 2009.
- ♦ Safety and Workplace Elements – The employee retention measure exceeded its target of a 91% retention rate for 2001 through 2005. Employee safety, as measured by the number of time loss accidents, surpassed its target of no more than 22 time loss accidents for all years from 2001 through 2005 except 2003 and 2006 when it had 24. Employee retention continued to be above 91% for 2006 through 2009, beating the target. Employee safety, as measured by time loss accidents, did not meet its target in 2006 and 2008. Because the three-year average of time loss accidents rose above 22 in 2008, the performance guarantee for employee safety was violated and a penalty was assessed against the Incentive Fund contribution for that year.

- ◆ **Employee Satisfaction Element** – Employee satisfaction with supervisor communication and support, leadership and management, and training and development has been well below the target for all the years the employee survey was conducted. Although employee satisfaction in other areas of the element was also below the target, it did come close to the target in some years. These other areas included: satisfaction with workplace safety, overall satisfaction with job, rating of respectful workplace, rating of innovation, spirit of teamwork, and satisfaction with participation in decision-making. About half of the employee satisfaction measures were discontinued after 2007 because WTD believed this measure no longer worked well as a performance metric compared to other performance metrics WTD believed it could influence more directly. WTD notes that these performance measures generally did not decrease over the period. WTD contends that factors over which it had limited control, such as countywide decisions on labor practices and travel restrictions, had an impact on employee satisfaction. No employee survey was conducted in 2009.

STAFFING LEVELS

Observation 4: WTD is on track to meet one of the Program goals to operate and maintain the Brightwater facility without adding positions above the number of positions authorized in 2000 (i.e., 673.5 positions for 2000). Because there are more facilities today than there were in 2000, facilities are being operated with relatively fewer staff than in 2000.

One of the goals for WTD has been to add no additional staff for operating the Brightwater Treatment Plant (Brightwater). WTD's staffing levels were reviewed to see whether WTD is on track to meet this goal and to assess the impact of the staffing.

The stated Program policy regarding staffing has been to reduce staffing through attrition and separation incentives and not by involuntary layoffs. This policy has also been included as part of contracts with WTD's unions. For 2009, business plan savings related to the reduction or transfer of staff were \$1.72 million.

Based on data provided by WTD staff, WTD had 667 positions as of 2009 or 6.5 fewer than in 2000, as shown below in Exhibit 6. According to WTD staff, the 667 positions include all FTEs, TLTs, as well as all 26 staffing positions currently required by Brightwater. Of the 26 Brightwater positions, 13 are currently filled and the remaining 13 positions are vacant. A review of WTD's staffing trends for adopted FTEs and TLTs provided by council staff also showed WTD's staff levels falling for the period from 1996 through 2008.

Exhibit 6
Employee Positions (FTEs & TLTs)

Year	Positions
2000	673.5
2009	667.0
Difference	6.5

Source: 2000 to 2009 Comparison of WTD Business Factors during years of the Productivity Initiative Pilot Program

According to WTD staff, positions throughout the organization have been reclassified and set aside for Brightwater as they became vacant. WTD anticipates that there are currently enough reclassified, vacant positions to fully staff Brightwater as it comes on line over the next few years. The 26 Brightwater positions do not include a position to support Brightwater's environmental education

center. Currently six operators have been hired and are training in preparation for the beginning of plant operations.

Several WTD staff also observed that they have taken on more work while running with less people. For example, the shift at the South Plant is running with fewer staff than it used to. Another staff member discussed how lubrication specialists have been reduced from three to one, and how this reduction ultimately led to improvements in the way preventative maintenance is being performed. WTD has also taken on the operation of the Vashon Island and Carnation treatment plants without increasing staff. These treatment plants currently require one additional operator each along with the use of maintenance staff as needed.

CONCLUSIONS

WTD has generally achieved most of the vision and goals it set at the beginning of the Program, especially those related to efficiency and cost savings. The Program reduced costs and initially met many of its business practice performance targets. Based on its staffing levels in 2000, WTD has been able to operate the additional Carnation and Vashon Island treatment plants without increasing the 2000 staffing level. Because of the cost savings and efficiencies, WTD also expects that it will operate and maintain the new Brightwater treatment plant with existing or reclassified positions within the 2000 staffing level.

However, WTD has been less successful in several areas during the latter part of the Program. Over the last four years WTD has been less successful in sustaining its initial performance involving quality and other customer and employee related vision elements and goals as measured by WTD's balanced scorecard and the performance targets it established. The percentage of residents and businesses that saw WTD as a good neighbor has been generally lower over the past few years than at the beginning of the program, and the target for this measure has not been met since 2003. The targets for quality and customer service to local sewer agencies have not been met since 2004. The employee retention measure exceeded its target of a 91% retention rate. Employee safety, as measured by the number of time loss accidents, has not exceeded the target measure except in 2003 and 2006, but employee satisfaction with workplace safety has never met its target measure. Employee satisfaction with supervisor communication and support, leadership and management, and training and development has been well below the target for all the years the employee survey was conducted.

CHAPTER III: RATEPAYER IMPACTS

One of the stated goals of the Program was to provide savings to the public and hold the portion of the sewer rate dedicated to ongoing operations to less than or equal to current levels after adjusting for inflation. As discussed in the previous chapter, operational efficiencies based on the planned savings from the Productivity Program Plan did reduce costs by 2005 compared to the adjusted and inflated costs of WTD's 2000 status quo operations and costs. Based on these savings and other savings identified by WTD since 2005, rates supporting operating costs have increased about the same as the Seattle area's inflation rate, but the total rate has exceeded inflation and the 1999 Regional Wastewater Services Plan (RWSP) forecasts. In 2004, the RWSP was substantially revised to reflect decisions made regarding the design and location of the Brightwater Treatment Plant (and associated wastewater conveyance improvements) and to reflect significant increases in construction materials that occurred over the past decade.

RATE IMPACTS

Observation 5: The portion of WTD's rate devoted to its operating and maintenance costs has increased at about the same rate as Seattle's consumer price index. Depending on how much non-rate revenue is allocated to operating and maintenance costs, the 2009 rate difference is slightly below or above the inflated 2000 estimated rate. Compared to the 1999 Regional Wastewater Services Plan, the total rate has exceeded the RWSP's projected rate by \$1.80. The capacity charge has also exceeded the rate of inflation and the RWSP's forecast by over 200%. This is because when the RWSP was prepared, state law limited the charge to \$10.50 compared with the current charge of \$47.64.

WTD does not calculate its rate based on each component of its costs (e.g., operating, capital, or debt service), and as a result, there is no portion of the rate that has been specifically identified for operations and maintenance. Consequently, the rate amount needed for operating expenditures was estimated by WTD based on actual expenditures and revenues. WTD provided two scenarios for calculating the operating portion of the rate. In one case all the non-rate revenue like investment income and miscellaneous revenue was allocated proportionately among the different cost components, including operations. In the second case, all the non-rate revenue except for capacity charges was allocated to help reduce operating costs. In the first case, the operating portion of the rate slightly exceeded the inflated 2000 rate needed for operations (2.6% higher). In the second case, the operating portion of the rate was slightly lower (-1.6%) than Seattle's consumer price index. Overall, the operating portion of WTD's rate has increased at about the same rate as inflation. Regardless of how the non-rate revenue was allocated, it should be noted that when the initial planned savings were implemented between 2001 and 2005, the operating portion of the rate increase was lower than inflation for the 2001-2005 period, but from 2006 to 2009, the operating portion of the rate has exceeded inflation. Exhibit 7 shows that 2009's operating rate was more or less close to an inflated 2000 operating rate. Without the planned savings, the 2009 operating rate might have been much higher than the 2000 inflated rate.

Exhibit 7
2009 Actual Rate Operating Component Compared to Inflation

Revenue Scenario	2000 Inflated Rate	2009 Actual Rate	2009 Difference	Percent Difference
Rate With Non-Rate Revenue Allocated Among All Costs	\$11.16	\$11.45	\$.29	2.6%
Rate With All Non-Rate Revenue Allocated to Operating Costs	\$11.16	\$10.94	-\$.18	-1.6%

Source: Operating Rate Component Breakdown 2000-2009 and Seattle CPI-U 2000-2009

WTD's progress on this goal was also evaluated by comparing the total 2009 actual rate to the total 2009 projected rate from the 1999 Regional Wastewater Services Plan (RWSP). The 1999 RWSP was the policy basis for a \$1.2 billion capital improvement program that was to provide wastewater services to this region until 2030. As part of this plan, cost and rate projections were included as planning level estimates, but more refined costs and rates are developed as more precise information is obtained. WTD updated the RWSP in 2004. Annual budgets are developed that reflect the more refined cost estimates and rates are set based on revised costs and revenue needs. Since the operating rate component of the 1999 RWSP was unavailable, the total rates also were compared. This included components for capital and debt service in addition to the operating component.

Exhibit 8 shows the comparison between the actual rate and the projected rate from the 1999 RWSP. The actual rate was \$1.80 more expensive than the projected rate, but still within 6% of the projected rate, at \$31.90 vs. \$30.10, respectively. Because these rates include WTD's respective operating, capital, and debt service components, it is difficult to judge the impact of the Program on the overall rate since the Program focused mainly on operations.

Exhibit 8
2009 Actual Rate Compared to 1999 RWSP 2009 Projection

2009 Actual Rate	\$31.90
1999 RWSP 2009 Projected Rate	<u>\$30.10</u>
Difference	\$ 1.80

Source: 1998 RWSP Monthly Sewer Rate Projections

Although not directly related to the Program, the changes in capacity charges were also reviewed as part of this analysis. Exhibit 9 shows that the actual capacity charge for 2009 was \$34.41 higher than the 2000 capacity charge inflated by CPI-U. Exhibit 10 shows that the actual capacity charge for 2009 was \$32.59 higher than the 1999 RWSP's projected capacity charge for 2009. It should be noted that the capacity charge was limited to \$10.50 in 2000, and when the RWSP was developed in 1998 the County was limited by State statute to a maximum capacity charge to \$10.50 through 2002 and no greater than one-half the rate thereafter. After 2000, this was changed and the County implemented new policies reflecting the RWSP, which allowed the capacity charge to grow at a more rapid pace.

Exhibit 9
2009 Actual Capacity Charge Compared to Inflation

2009 Actual Capacity Charge	\$47.64
Inflated 2000 Capacity Charge	<u>\$13.23</u>
Difference	\$34.41

Source: Seattle CPI-U 2000-2009

Exhibit 10
2009 Actual Capacity Charge Compared 1999 RWSP 2009 Projection

2009 Actual Capacity Charge	\$47.64
1999 RWSP 2009 Projected Capacity Charge	<u>\$15.05</u>
Difference	\$32.59

Source: 1998 RWSP Capacity Charges Projections

In addition, WTD's rates were also compared to the results of a recent water/wastewater rate survey for the 50 largest cities in the United States, prepared by Black & Veatch. This survey provided information on the average growth of wastewater rates for these 50 cities from 2001 through 2009. Although such surveys do not account for differences in the agencies, it provides at least a benchmark to determine WTD's relative standing of its rates compared to large cities. The average annual growth in WTD's total rates from 2001 to 2009 was higher than the average annual growth in rates for the 50 largest cities in the United States at 6.2% compared to 5.5%, respectively. However, because this survey was for the entire rate (including the operating, capital, and debt service portions), it is unknown how the average annual growth in the operating portion of WTD's rate compared to the 50 largest cities or what the reasons are for differences in capital and operating expenditures. According to WTD, its large capital program has driven much of the growth in rates over the past few years, and there are very few if any other communities in the nation that have undertaken a comparable effort to site and construct such a large regional treatment plant during this period.

CONCLUSIONS

Based on WTD's implementation of the Program Plan and the results of those efforts, WTD has kept the portion of its operating rate close to the rate of inflation and the initial RWSP forecasts. With the planned savings, WTD was able to keep the increases in the operating portion of the rate below the Seattle area's inflation rate during 2001-2005. However, since 2005, the portion of the rate devoted to operating costs has increased more than inflation. The total rate and capacity charges have exceeded inflation and the RWSP forecasts.

CHAPTER IV: APPLICATION OF PRIVATE SECTOR AND INDUSTRY BEST PRACTICES

One of the key elements and intent of the Program was to use private sector models and industry best practices as part of WTD's effort to become the most efficient and productive publicly owned wastewater utility in the country. As part of developing the Program Plan, WTD's staff and consultant identified planned savings to achieve comparability with private sector costs. During the Program over the past nine years, employees have been implementing additional cost savings measures, but most of the savings are a result of the planned savings developed with the consultant as part of the Program Plan.

IMPLEMENTATION OF PRIVATE SECTOR PRACTICES

Observation 6: WTD has identified and implemented many cost saving practices and ideas. Some have been innovative, best practices, and good management, but most of the practices and ideas are ones that would normally be expected from an organization focused on continuous improvement and efficiency, which was a goal of the Program.

To determine if changes being made at WTD over the course of the Program were based on private sector models and industry best practices, the approved employee savings were evaluated by an industry expert from Veolia Water North America. Veolia Water operates and manages almost 300 municipal water and wastewater plants across North America and the Caribbean. Veolia Water is experienced with the operations and maintenance of potable water, process water, collection and distribution systems, wastewater, biosolids (sludge) and residuals management, stormwater management, and related systems.

There was a total of 110 unique items approved as employee savings from 2001 through 2009, and many of these items were counted as savings in more than one year. Because the majority of employee savings involved short-term salary savings from vacancies, they were not included as part of this evaluation. Of the 110 items evaluated, 25 were specifically identified and highlighted as a best practice, good management practice, or innovative idea. Although there were many other cost saving ideas and practices, the industry expert believed these 25 practices went beyond what would normally be expected from continuous improvement and identification of efficiencies from a progressive operations staff. These are displayed below in Exhibit 11.

Exhibit 11 **Key Cost Savings Practices**

Savings Category	Count	Total Identified Program Savings*	Years with Savings
Best Practice	13	\$ 61,161	2002 & 2005-09
Good Management Practice	8	\$644,828	2001-02 & 2004-07
Innovative Ideas	4	\$319,785	2002 & 2005-07

*Because savings amounts for individual items were not reported in 2007, savings for 2007 have not been included.

Source: 2001-2009 WTD Productivity Initiative Reports, Backup Savings Calculations Information from WTD, and FCS GROUP's WTD Productivity Initiative 2001-2009 Savings Analysis with Comments from Veolia Water North America

The savings from the best practice group ranged from \$50 for using a wood chipper to recycle branches to \$32,383 for using in-plant training instead of an outside vendor. Of the 13 items identified as best practice, 11 occurred after 2005.

The savings from the good management practice group ranged from \$6,511 from modifications to on-call procedures to \$345,037 for arranging to recycle grit instead of hauling it to a landfill. It should be noted that grit recycling saved over half of the total identified savings for the good management practice group.

Of the four innovative ideas, three were first approved in 2002. The largest savings of \$191,133 was for the mixed liquor channel blowers at the West Point plant. Experimentation determined that significant amounts of electricity could be saved by running two liquor channel blowers at a higher rate instead of the current practice of running three blowers at a lower rate. A detailed list of the items identified as innovative ideas are listed below in Exhibit 12.

Exhibit 12 **Innovative Ideas**

Savings Action	Total Identified Program Savings*	Years with Savings
South Plant Grit Operation Improvements	\$ 45,785	2002
West Point Maintenance-Rebuild Chlorine Valves	\$ 74,467	2002 & 2005-09
West Point Mixed Liquor Channel Blower Savings	\$191,133	2002 & 2005-09
Boot Replacement	\$ 8,400	2006-2007

*Because savings amounts for individual items were not reported in 2007, savings for 2007 have not been included.

Source: 2001-2009 WTD Productivity Initiative Reports, Backup Savings Calculations Information from WTD, and Savings Analysis by Veolia Water North America and FCS GROUP's WTD Productivity Initiative 2001-2009 Savings Analysis with Comments from Veolia Water North America

Of the remaining 85 items evaluated, 84 represented valid savings and were attributed to good, common practices and/or industry technology changes. While WTD certainly benefitted from these items, they did not represent practices or changes that would distinguish WTD as one of the best public wastewater providers in the country. Examples of these types of items include installing automatic lighting controls, reducing hypochlorite use, and digester cleaning.

Savings for only one item were identified as being difficult to measure. For deferring the need to rebuild or replace assets at South Plant as a result of good maintenance practices in 2007, the industry experts felt that asset management savings are generally difficult to quantify. Because the target was not met in 2007, no savings attributed to this item were transferred to the Incentive Fund.

PEER SURVEY AND BENCHMARKING

As previously mentioned, a goal of the Productivity Initiative was to become the most efficient and productive publicly owned wastewater utility. While it is difficult to measure and assess WTD's accomplishment of this goal, comparing some selected efficiency and productivity measures from other comparable public agencies can provide, at least, some measure of WTD's efforts relative to the industry. Working with WTD staff, selection criteria were established, and five comparable jurisdictions were selected for benchmarking with WTD. The criteria included population served, climate, services provided, and treatment technology. In addition, the comparisons needed to be over a period of time rather than just a snapshot in time, and data needed to be relatively easy to obtain. As a result, comparable agencies also needed to participate in the National Association of Clean Water Agencies (NACWA) Financial Surveys. The selected comparable agencies were:

- ◆ Minneapolis / St. Paul Metropolitan Council Environmental Services (MCES)
- ◆ Sacramento Regional County Sanitation District (Sacramento County)
- ◆ Orange County Sanitation District (Orange County)
- ◆ East Bay Municipal Utility District (East Bay MUD)
- ◆ Portland's Bureau of Environmental Services

During our data gathering process, the City of Portland's Bureau of Environmental Services was dropped because it was unable to separate its stormwater information from the wastewater information.

The benchmark measures were based on a selection of measures from WTD's 1999 Multi-Agency Benchmarking Project. These measures included:

- ◆ Total costs per million gallons treated (includes debt service and capital expenditures)
- ◆ Operating and maintenance (O&M) costs per million gallons treated
- ◆ Operating and maintenance costs per ton of BOD removed
- ◆ Operating and maintenance costs per ton of TSS removed
- ◆ Full Time Equivalent positions per billion gallons treated

BOD and TSS are pollutants in wastewater that are removed as part of the wastewater treatment process. BOD data for MCES and East Bay MUD were not available because they do not collect the information.

To track the impact of the Program over time, multiple years of data were collected for this benchmarking survey. Historical data came from the results of the 2002, 2005, and 2008 NACWA Financial Surveys. These surveys were based on what happened in 2001, 2004, and 2007, respectively, and cover the time period that the Program was in operation. FCS GROUP collected 2009 data (i.e., 2009 or the organization's most recently completed fiscal year) through a survey conducted in the fall of 2010. The 2009 data was also based on the NACWA survey guidelines to keep the data comparable between years. The survey data and a copy of the survey questionnaire are included in Appendix B.

Peer Survey Results

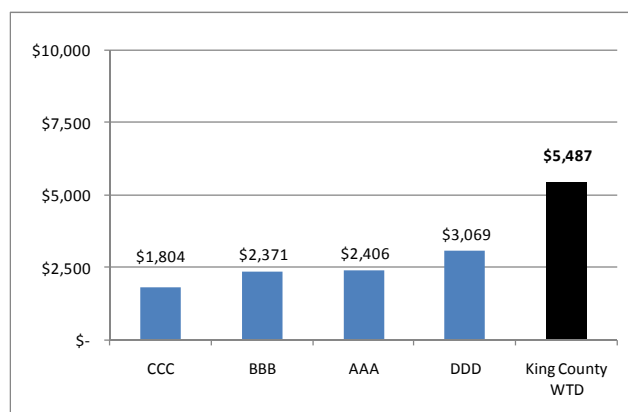
Making comparisons with other agencies provides an indication of how well WTD's costs compare to other agencies, but it should be noted that the different agencies in other states might be affected by different regulations, operating costs, capital needs, and technology. If WTD wants to identify why differences exist among the surveyed jurisdictions, additional follow-up research might be needed to determine the extent of these other factors.

Observation 7: *Although its total cost per million gallons treated has been the highest of all agencies at the start and in 2009, WTD's operating and maintenance costs have improved relative to its peer agencies since the Program started in 2001. WTD started out in 2002 as the agency with the highest or second highest operating and maintenance costs, but by 2009 WTD's costs were at the lower or mid-range levels.*

WTD had the highest total cost per million gallons treated in all years when compared to the other agencies. This is most likely in part due to the significant capital investments being made over the past decade as part of the RWSP. WTD had the highest total cost per million gallons treated in each year of the survey. In the 2002 survey as shown in Exhibit 13, WTD's total costs of \$5,487 were 79% higher than the second highest agency's cost at \$3,069. Although the 2009 survey's results show in Exhibit 14 that WTD still had the highest total costs, the percentage difference had decreased to 22% from WTD's cost of \$9,519 to the next highest cost of \$7,826.

Exhibit 13

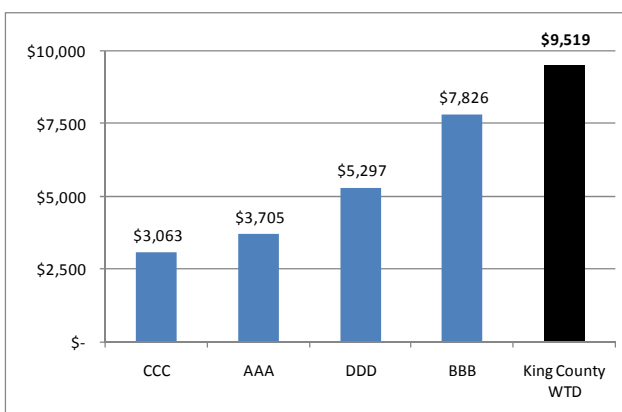
2002 Total Cost per Million Gallons Treated



Source: 2002 NACWA Financial Survey

Exhibit 14

2009 Total Cost per Million Gallons Treated

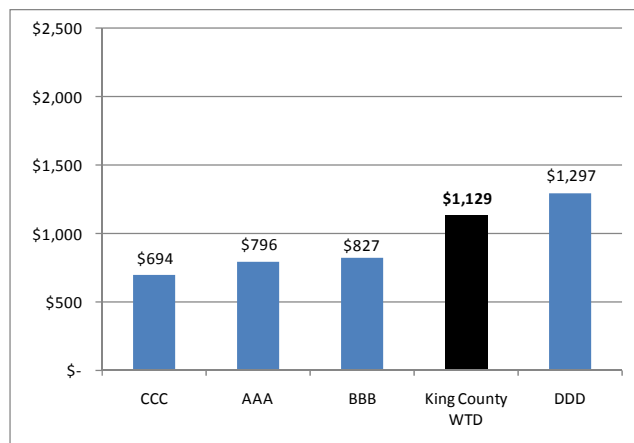


Source: FCS GROUP Benchmarking Survey

When compared to the other agencies, WTD's O&M costs per million gallons treated, ton of BOD removed, and ton of TSS removed have increased at a slower rate over the course of the Program. Also, since the 2005 survey WTD's FTEs per billion gallons treated have fallen while other agencies' have remained the same or increased. WTD's O&M costs per million gallons treated were the second highest in the group of five (including WTD) in the 2002 NACWA survey, but are now the second lowest. This information is displayed below in Exhibits 15 and 16. While the O&M costs per million gallons treated increased 21% over the period for WTD, it increased from 57% to 155% for the other agencies.

Exhibit 15

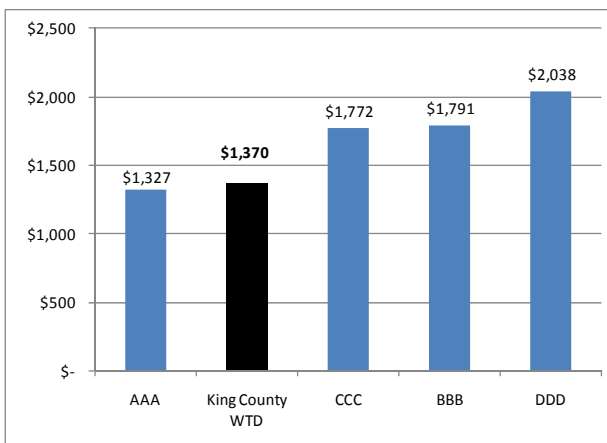
2002 O&M Cost per Million Gallons Treated



Source: 2002 NACWA Financial Survey

Exhibit 16

2009 O&M Cost per Million Gallons Treated

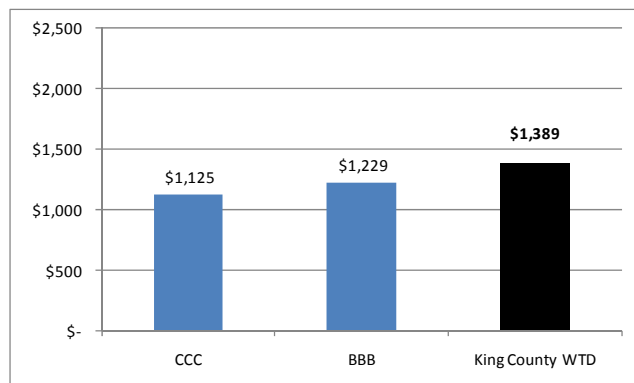


Source: FCS GROUP Benchmarking Survey

As previously mentioned, BOD data for MCES and East Bay MUD were not available because they do not collect the information. WTD's O&M cost per ton of BOD removed was the highest out of the group of three for the 2002 NACWA survey, but for 2008 NACWA and the current survey WTD is now the lowest out of the group of three. While WTD's O&M cost per ton of BOD removed increased 12% over the period, it increased by 76% to 78% for the other agencies. The results of the 2002 and current survey are shown below in Exhibits 17 and 18.

Exhibit 17

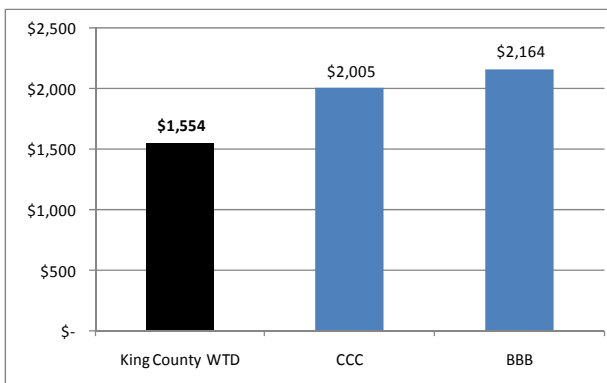
2002 O&M Cost per Ton of BOD Removed



Source: 2002 NACWA Financial Survey

Exhibit 18

2009 O&M Cost per Ton of BOD Removed

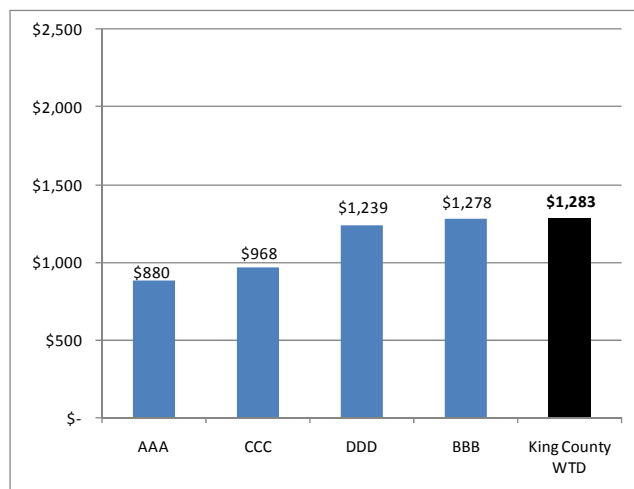


Source: FCS GROUP Benchmarking Survey

WTD's O&M cost per ton of TSS removed was the highest of the group of five in the 2002 NACWA survey, but are now in the middle of the group in the current survey. While the O&M cost per ton of TSS removed increased by 23% over the period for WTD, it increased by 30% to 62% for the other agencies. The results of the 2002 and current surveys are displayed below in Exhibits 19 and 20.

Exhibit 19

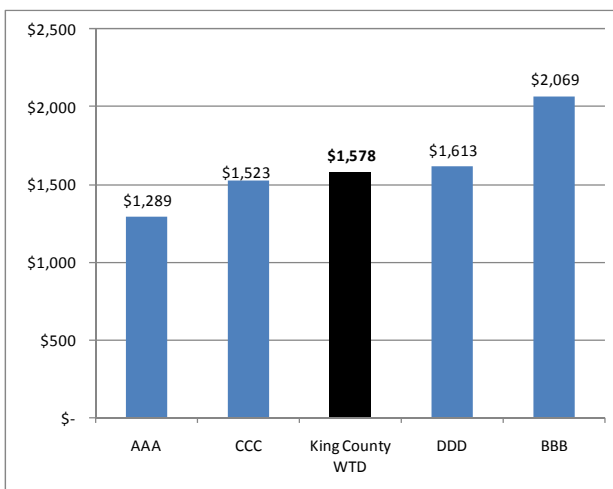
2002 O&M Cost per Ton of TSS Removed



Source: 2002 NACWA Financial Survey

Exhibit 20

2009 O&M Cost per Ton of TSS Removed

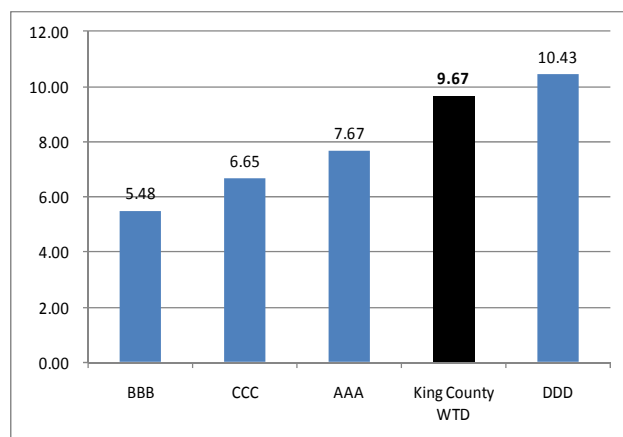


Source: FCS GROUP Benchmarking Survey

WTD's FTEs per billion gallons treated were the second highest out of the group of five in the 2005 NACWA survey, but are now the second lowest in our survey. It should be noted that there was not much of a difference between the FTEs per billion gallons treated in the 2009 survey between WTD and three out of the four other agencies. 2002 results were not included in this analysis because of inaccurate FTE data for WTD in that year. The results of the 2005 and 2009 current surveys are shown below in Exhibits 21 and 22.

Exhibit 21

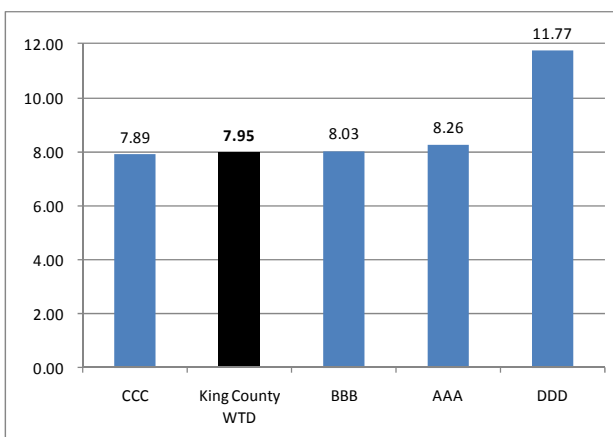
2005 FTEs per Billion Gallons Treated



Source: 2002 NACWA Financial Survey

Exhibit 22

2009 FTEs per Billion Gallons Treated



Source: FCS GROUP Benchmarking Survey

WTD COST TRENDS

Based on the survey comparisons, over the last decade WTD has shown improvement relative to comparable agencies. To determine if WTD's improvement is a result of its efforts instead of the

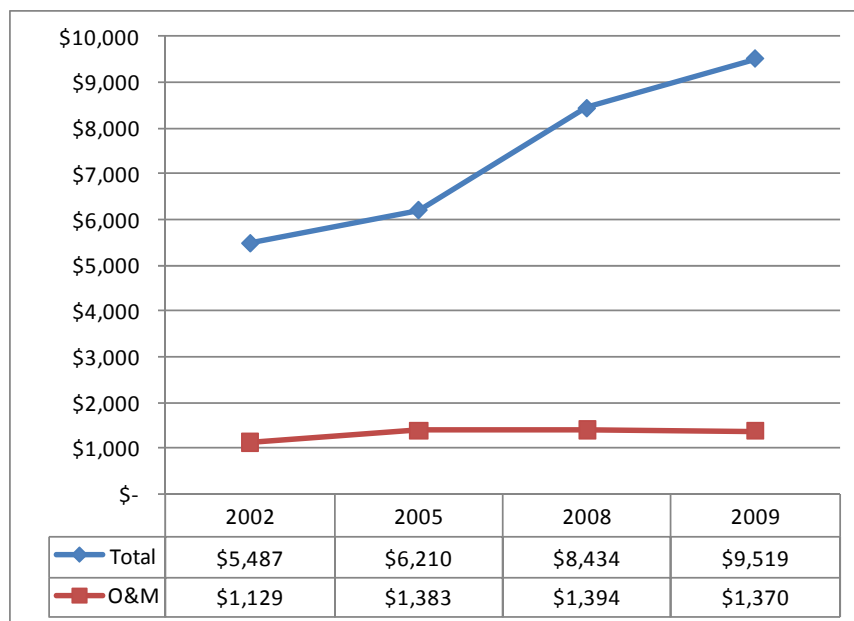
changed performance by the comparable agencies, WTD's data was analyzed separately to identify any trends.

Observation 8: *Although its total costs have been rising, WTD's operating and maintenance costs have remained generally stable and these costs have been slightly decreasing over the past five years.*

The data from the various surveys shows that WTD's actual operating and maintenance costs have been positively affected by the Productivity Initiative. The trends are shown in Exhibits 23 through 25.

- ◆ The total cost per million gallons treated has increased for each survey, while the operating and maintenance cost per million gallons treated increased from the 2002 to the 2005 survey but has remained remarkably steady since then. The increasing total costs are a result of increased capital investments, primarily the Brightwater Treatment Plant.
- ◆ Since the 2005 survey the operating and maintenance cost per ton of BOD has been falling, while the TSS cost held fairly steady. The increase in the BOD cost from 2002 to 2005 is in part due to the measured decrease in the amount of BOD entering the plants as influent in 2005. The estimated average tons per day of BOD influent fell 34% from 2002 to 2005, from 175.6 to 115.2 tons, respectively. WTD noted that there were sampling and measurement errors for the BOD data in 2005.
- ◆ FTEs per billion gallons treated have gone down steadily since the 2005 NACWA survey. Data for 2002 was excluded because an accurate FTE count was not available from the 2002 survey for WTD.

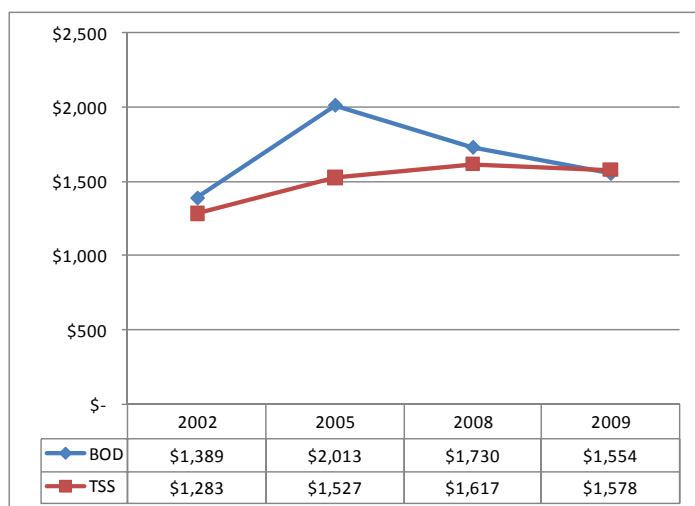
Exhibit 23
WTD Total and O&M Cost per Million Gallons Treated



Source: 2002, 2005, and 2007 NACWA Financial Surveys and 2009 FCS GROUP Benchmarking Survey

Exhibit 24

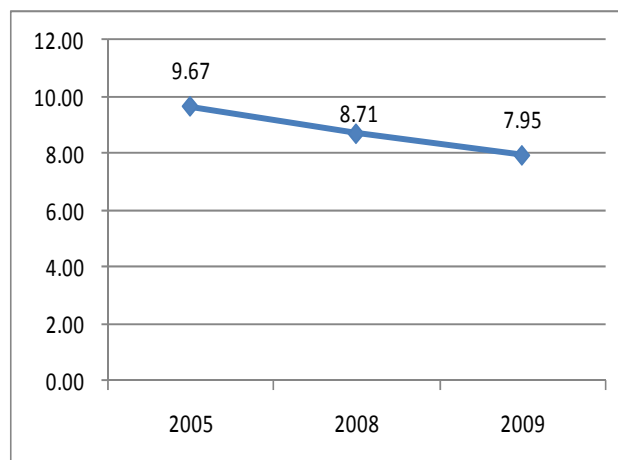
WTD O&M Cost per Ton of BOD & TSS Removed*



*2005 BOD data had sampling and measurement errors

Exhibit 25

WTD FTEs per Billion Gallons Treated



Source: 2002, 2005, and 2007 NACWA Financial Surveys and 2009 FCS GROUP Benchmarking Survey

PRIVATE SECTOR COMPARISON

Since one of the productivity initiatives objectives was to use private sector models to improve management and cost efficiencies, we compared WTD's costs to private sector wastewater treatment plants. Because FCS GROUP's team included Veolia Water North America, FCS GROUP was able to obtain some data on the costs associated with private operation of wastewater treatment plants. WTD's current survey data was compared to data from four wastewater treatment plants operated in North America by a private sector firm(s). The sizes of the facilities represented in terms of flow were 25 mgd, 98 mgd, 43 mgd, and 9.5 mgd. Because the treatment plants are not as large as WTD's two plants, we recognize there are limitations with the comparisons; nevertheless, the information provides some comparative value. One limitation is that the private sector costs only represent the costs to operate the plant, while WTD's costs represent all operating costs.

Observation 9: Compared to smaller privately operated wastewater treatment plants, WTD's O&M costs per million gallons treated, ton of BOD and ton of TSS removed, and FTEs per billion gallons treated were either the highest or second highest of the group. Additional analysis is still needed to refine WTD's costs to break out only the plant operating costs to make the data more comparable to the privately operated plant cost data. WTD contends many factors make private sector comparisons problematic such as differences in treatment technology, regulatory requirements, weather patterns and other factors—such as a balanced scorecard—factors which may not be part of private sector plant operations.

Care should be taken in making definitive conclusions based on this information because detailed information about the private sector wastewater treatment plants' O&M costs and staffing levels was not available. These O&M costs and staffing levels represent a good faith effort to represent the total resources required to operate these plants by including overhead-related activities such as payroll, human resources, etc. However, other overhead costs included in WTD's O&M costs, such as those for legal services, were not included. In addition, only O&M costs were provided for this comparison, and total costs for these jurisdictions could not be compared based on available information. Additional analysis is needed to make WTD's costs and staffing levels more comparable

to a privately operated plant. Should this type of analysis be desired, this could be accomplished by refining WTD's costs and staffing levels to a plant level. Once this is done, WTD's revised survey data could be compared to the privately operated plants again. The results of the private sector comparisons are displayed below in Exhibits 26 through 29.

Exhibit 26
O&M Cost per Million Gallons Treated*

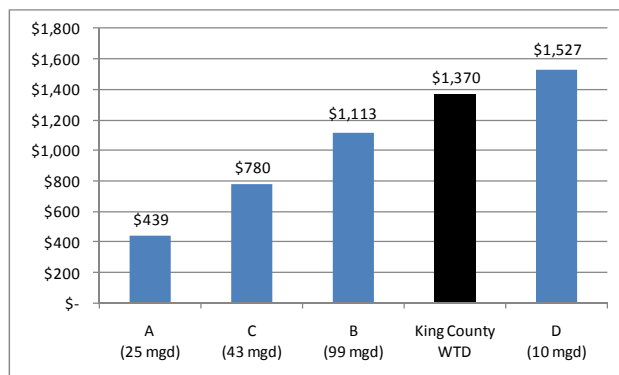
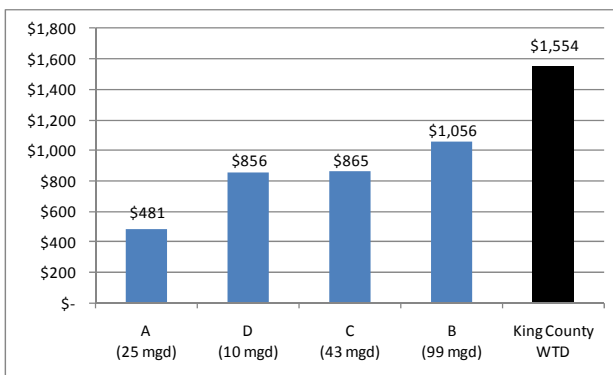


Exhibit 27
O&M Cost per Ton of BOD Removed*



*King County's costs include all operating costs not just the treatment plant costs

Source: Veolia Water North America and FCS GROUP Benchmarking Survey

Exhibit 28
O&M Cost per Ton of TSS Removed

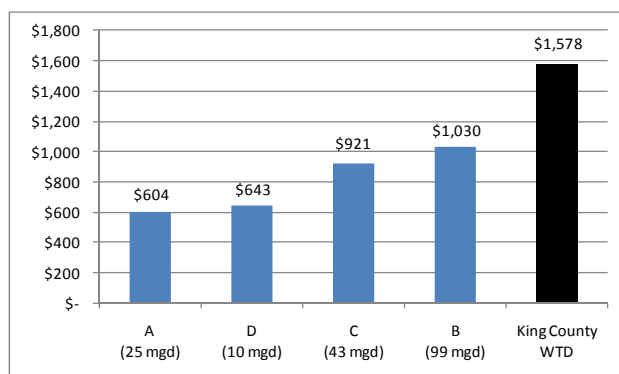
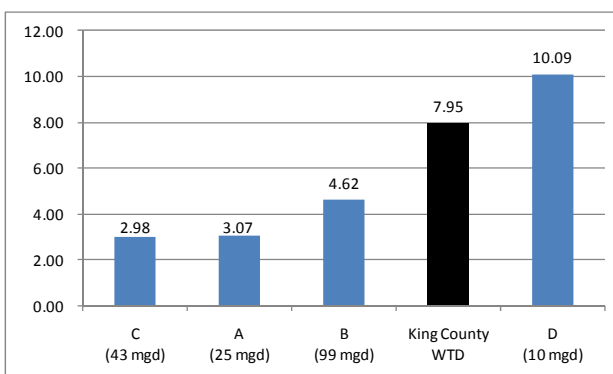


Exhibit 29
FTEs per Billion Gallons Treated



*King County's costs include all operating costs not just the treatment plant costs

Source: Veolia Water North America and FCS GROUP Benchmarking Survey

CONCLUSIONS

To achieve operating costs comparable to a private sector operator, the Program Plan initially identified a number of cost saving initiatives, and WTD employees continued to identify other productivity and cost saving ideas throughout the life of the Program. Of the many initiatives and ideas implemented, a number of them can be considered best practices, innovative ideas, and good management practices. Most of them were, however, practices and ideas that would be expected from an organization that focused on continuous improvement and efficiency, which was a goal of the Program. Compared to a few selected peer agencies, WTD has improved its operational cost effectiveness relative to these other agencies. When the Program started, WTD generally had higher costs, but by 2009 WTD had some of the lower costs with the exception of the total cost comparison. The comparisons we made with some privately operated plants of different sizes showed WTD's

costs are higher than the small sample of privately operated plants; however, a more discrete analysis is needed to draw any definitive conclusions due to limitations with available data.

CHAPTER V: COST TARGETS, ASSUMPTIONS, AND ADJUSTMENTS

In order to measure the progress towards reducing WTD's expenditures and assuring accountability over the ten-year life of the Program, WTD intended to perform the services that it directly controlled for a fixed cost. Annual expenditure targets representing this fixed cost were developed as part of the Program Plan. As discussed previously, actual expenditures were compared to these targets to measure WTD's progress on its business plan savings and to see if enough additional money had been saved through employee actions to be eligible for an employee payout through the Incentive Fund.

Because the expenditure targets were set back in 2000 as part of the initial Program Plan, a method was needed to update these targets for costs outside of WTD's control, such as inflation, influent quantity, or changes to King County salary schedules and benefit packages beyond the scope of what was agreed to between WTD and its unions. A method was developed as part of the Program that would adjust the annual target based on actual changes to costs. This method for updating the annual target was originally included as Appendix C-7 of the Program Plan and has since been referred to as "C-7" by WTD and other county staff.

The original targets were based on the budgeted costs for WTD, the Environmental Lab, and Industrial Waste (which was not part of WTD at that time) minus most of WTD's central charges (i.e., interfund charges for services provided to WTD by other organizations in King County). The initial Program Plan recommended developing service agreements with these other County departments to define the scope of responsibilities and the cost of services received. Although WTD made an effort to develop such agreements, only one agreement with Treasury was made. According to WTD, the other departments did not have any incentive to participate. As a result, most of these central charges were removed from the target because their costs were assumed to be outside of WTD's control. The central charges for fleet replacement and telecom remained because it was assumed WTD had some control over these costs.

Once annual performance and financial data was available for the previous year, the target was updated for that previous year's activity. Appendix C provides additional background on the C-7 changes and has a complete description of the original C-7 formulas and assumptions. The C-7 updates to the target included:

- ◆ Subtracting the scheduled business plan savings for the year. By subtracting the scheduled business plan savings, it was assumed that those business plan savings would be achieved for the year if the target was met.
- ◆ Updating personnel costs by actual county cost of living adjustments (COLA).
- ◆ Updating all other costs except those for electricity, chemicals, and polymer by the actual change in the consumer price index (CPI-U).

- ◆ Updating the costs of electricity, chemicals (i.e., chlorine, sodium hypochlorite, and bisulfite), and polymer (i.e., thickening and dewatering) separately based on the actual changes in their unit prices.
- ◆ Adjusting for changes in the amount of electricity, chemicals, and polymer consumed as well as biosolids produced based on changes in the number of residential customer equivalents (i.e., RCEs) served by WTD.
- ◆ Adjusting for changes in revenues from revenue generating activities, including South Plant septage, West Point power cogeneration, and the industrial waste surcharge. Although not prescribed by the C-7 process, the industrial waste surcharge was, in practice, always increased by only 50% of additional revenues.
- ◆ Adjusting for the actual costs related to odor control.
- ◆ Adding additional operations and maintenance costs for new facilities.
- ◆ Adjusting for additional costs judged to be outside of WTD's control (i.e., "fenceline" adjustments), such as changes to flex benefits (i.e., health care) costs in excess of CPI.

Over the life of the Program, the emphasis on the C-7 process has changed. According to WTD, while management's initial emphasis and energies were focused on achieving the business plan savings, as time passed the focus was on ensuring the targets were being met as well as achieving business plan savings.

IMPLEMENTING OPERATING TARGETS

Observation 10: A key component and benchmark for the Program is the operating target, and if WTD can operate below the operating target, there is an opportunity for employees to receive payments from the Incentive Fund. Most staff described the target setting process as difficult and/or complex. The target essentially required WTD staff to maintain a second set of financial records, and it has always been a struggle to reconcile these records with the reality of the actual WTD budget. The target monitoring process is made more difficult because a large percentage of WTD's cost increases are not considered to be within WTD's control and are not part of the operating target.

As mentioned previously, when the target was not met for 2004, a Technical Review Committee was formed to review the program, including the target adjustment process. The changes to the C-7 process that came from the work of the Technical Review Committee included:

- ◆ Revising the process for identifying and approving increases to the target for "new work." In order qualify as new work, there needed to be a change in the scope of services provided by WTD due to changes in things such as county policy, law, permit requirements, or due to work directed from outside of WTD. Also, new work was not to be taken on solely at the discretion of WTD.
- ◆ Making minor modifications to the way costs were adjusted by CPI and COLA, and to the way costs were adjusted for changes in the amount of electricity used by facilities other than the two wastewater treatment plants.
- ◆ Changing the methodology for money spent for training and other investments in productivity.

The target adjustment calculations and all available supporting documentation were reviewed by the FCS GROUP to understand the target adjustment process for 2001 through 2009 as prescribed by the C-7 guidelines. The accuracy of the adjustment calculations was not reviewed in detail or traced back to their source data. Additional information was provided by WTD staff when further explanations or context was needed to better understand adjustments. The C-7 process was also discussed with staff

during interviews to identify any challenges with the process or issues related to specific target adjustments.

Based on several comments from WTD and other County staff and FCS GROUP's experience reviewing the C-7 target calculations and supporting documentation, it was observed that the C-7 calculations were complex and cumbersome, and the C-7 process essentially required WTD to maintain a second set of financial records. After changes were made by the Technical Review Committee, the volume of target adjustments began to increase significantly. From 2001 through 2004, all of the C-7 adjustments were handled on a single spreadsheet. In 2005, there were two spreadsheets: one for the C-7 adjustments, and a supplementary spreadsheet to calculate adjustments to the target. By 2006, there were four spreadsheets, including three supplementary spreadsheets kept to account for target adjustments, in addition to the spreadsheet used to do the original C-7 adjustment calculations. In 2009, these three supplementary spreadsheets included over 110 individual target adjustments for a variety of items distributed among WTD's various sections.

Because of the complexity and the lack of an easy tracking system, monitoring expenditures and progress toward meeting the target is difficult. For example, several plant management staff found it difficult to know whether WTD was on track or not to meet the target over the course of the year. In one specific instance, staff were informed at one point during a two-month period that they were not going to make the target. They tried to come up with additional savings, but struggled to find any more. They were then subsequently informed that they were actually meeting the target. Over this two-month period, there had been a swing in the target between \$2 million to \$3 million.

A factor that makes the monitoring difficult is that a large share of WTD's budget is not part of the target. As previously mentioned, the Program Plan envisioned that WTD would have service agreements with departments to help control interfund and other charges. Because no agreements were reached, these costs are not included as part of the target, and consequently, the normal budget status financial reports cannot be used to track WTD's progress in meeting the operating target. Thus, the "second" set of books is needed.

Observation 11: With all the different changes to the target setting process, there are still a few issues that affect the reasonableness of the target, how savings are portrayed, and how savings are achieved to meet the target. In a few cases, real cost savings have not occurred because costs have been transferred out of the operating category to other categories; savings are recognized, but the costs to achieve such savings might not be appropriately accounted for; and temporary salary savings represent a large portion of savings.

As previously discussed, there are many calculations and assumptions that determine the operating target and how savings and costs are incorporated in the target. After reviewing the calculations, there are a few instances where some refinements might be needed to improve the process. Identified savings are not always net of costs, and cost savings may not be permanent but only help meet the annual target.

Cost Transfers

The emphasis of the Program has been on the operating budget and staying within the adjusted operating targets initially established by the planned business savings. To achieve the initial targets, some costs were transferred from the operating budget to the capital budget or some other category.

- ◆ When the costs related to capital projects are appropriately shifted from operating to capital categories, there are no real savings to the ratepayer, but to establish the initial target such category transfers were made. For example, WTD reductions to meet the target for 2005 were \$11,006,893, but \$2,209,273 represented transfers of costs to capital-funded sources. While the change in funding category for these activities resulted in "planned savings" to operating costs to help establish the operating target, they did not result in savings to WTD overall. They did,

however, more accurately reflect how those costs were funded. Such changes should not be classified as savings as shown in some of the Program's documentation. WTD recognizes that such shifts in costs do not save money, and WTD staff said they were never considered to be savings associated with the Program.

- ◆ As part of the planned savings, the emergency contingency accounts were eliminated from the operating budget, and the costs were then considered to be uncontrollable. Thus, adjustments increased the target expenditures related to the account, and actual savings might be less than the full amount taken as part of the planned budget savings.

Accounting for Both Savings and Costs

When setting the annual target and claiming savings for productivity improvements not originally part of the planned savings, credit can be taken for savings, but in a few instances the costs might be either incorporated as part of an increased target adjustment, transferred from operating to capital, or not recognized at all. The actual cost benefit might not be taken into account when setting the target or calculating savings. If there are net savings, the target does not need to be adjusted, but by adjusting the target, a comparison of the actual expenditures to the target might not be as accurate depending on whether the target was increased and the total savings or net savings were used. The following illustrate these issues:

- ◆ WTD staff also stated that the capital costs associated with equipment purchased as part of some of the business plan savings, such as the high solids centrifuge at West Point, had not been included in calculating the business plan savings. This would result in higher savings, since the capital costs required to get the savings have not been included when calculating the savings. Where technology or capital investment improves efficiency, the amortized cost of the improvement could be used to determine the actual annual savings. If the ratepayer has to pay a higher rate to make investments, the ratepayer saving is less.
- ◆ As part of the original C-7 methodology, the target was adjusted by changes in revenues from South Plant septage, West Point power cogeneration, and industrial waste surcharge activities. This was done to protect the overall financial health of WTD by ensuring that cost savings were not achieved by curtailing these revenue producing activities. However, there may not have been a one-to-one relationship between these activities' costs and revenues. For example, the \$755,092 increase to the 2009 target for increased South Plant septage revenues may not have resulted in an additional \$755,092 in South Plant septage costs.

Salary Savings

Observation 12: The majority (59%) of the Program's employee savings have come from position vacancies, mostly from temporary vacancies. The temporary vacancy savings have been used by WTD to meet the operating targets, and therefore qualify for Incentive Fund payouts.

Savings from employee vacancies have been an important source of employee generated savings during the Program and such savings are currently allowed in the calculations comparing the actual expenditures to the established target. As staff filled in for these vacant positions by performing part or all of these vacant positions' duties, a portion of the under-expenditure in personnel budgets related to the vacancy was counted as "salary savings." From 2001 through 2004, a few vacant positions with salary savings were permanently eliminated. From 2005 onward, however, salary savings were solely from temporary vacancies. These were referred to as "short-term salary savings."

Except for the first year of the Program, the majority of all employee savings was from salary savings. From 2001 through 2009 there was \$7.5 million in total salary savings, or 59% of the \$12.7 million in total employee savings for the period. As a percentage of the total employee savings,

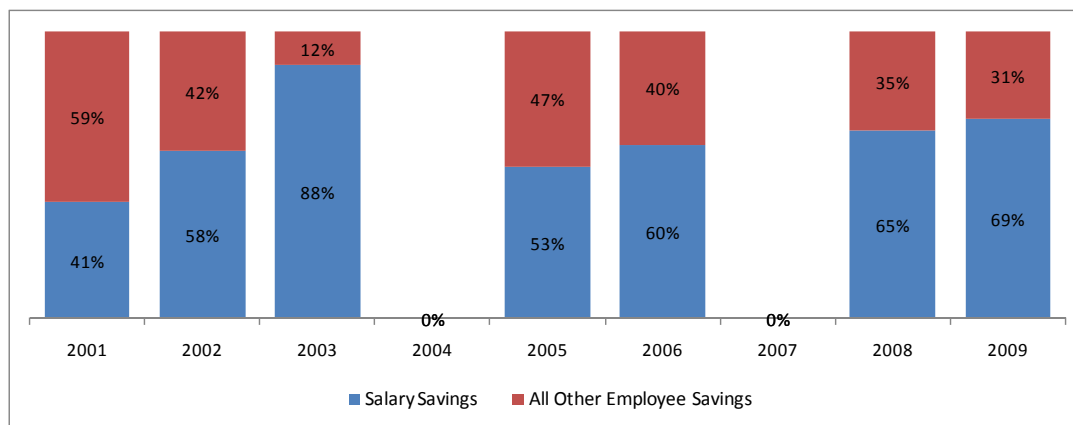
salary savings ranged from a low of 41% to a high of 88%. The annual employee savings and percentages are displayed below in Exhibits 30 and 31.

Exhibit 30
Annual Employee Savings: 2001 through 2009



Source: Key Financial Results of the Productivity Initiative

Exhibit 31
Annual Employee Savings Percentages: 2001 through 2009



Source: Key Financial Results of the Productivity Initiative

According to the 2005 Productivity Initiative Annual Report (2005 Report), existing staff achieved short-term salary savings by accomplishing the work assigned to them by vacated positions using a combination of short-term and temporary strategies, such as:

- ◆ Accepting additional assignments,
- ◆ Deferring essential but non-urgent activities,
- ◆ Creating short-term cross-training opportunities,
- ◆ Delaying vacations or other leaves of absence,
- ◆ Increasing the number of employees assigned to a supervisor, and

- ◆ Exempt employees working extra hours at no additional compensation.

For short periods of time while permanent replacements were sought for these vacancies, staff would use the strategies outlined above in exchange for potential rewards through the Program.

King County Department of Natural Resources and Parks (DNRP) provided independent reviews in 2001 and 2003 of the Program. Some of the observations concerning salary savings and vacancies included:

- ◆ “Incentive Fund contributions claimed from temporary salary savings (unfilled vacancies) are subjective and difficult to substantiate. The group should consider allowing only permanent salary savings (position budget reductions) to count towards the incentive fund... Consistent claims of savings due to temporary unfilled vacancies will be viewed with skepticism.” (2001)
- ◆ “Having temporary salary savings begs the question of whether salaries are budgeted at the appropriate level in the first place.” (2001)
- ◆ “The Productivity Program should not create an incentive to carry temporary vacancies – rather the program should provide an incentive to reduce positions over the long term and to budget at the appropriate level.” (2001)
- ◆ “Although all salary savings recommended for Incentive Fund inclusion have some documentation supplied, it appears the judgments on what qualifies and what does not is inconsistent and somewhat subjectively determined.” (2003)

An audit of the program by Executive Audit Services in 2006 also found that salary savings included some judgments that were not quantifiable and not subject to examination.

According to the 2005 Productivity Initiative Report, employees and management recognized that short-term salary savings were “not sustainable long-term without compromising safety, union contract provisions, employee health and well-being, and employee retention.”

A review of the salary savings by FCS GROUP as reported in the Productivity Initiative Annual Reports also found them to be difficult to substantiate for the reasons mentioned above. With the expanded treatment operations and the reclassification of positions for Brightwater, WTD has reduced positions and increased productivity in the past. When Brightwater is fully staffed, WTD's ability to generate temporary salary savings might be limited. Because temporary salary savings are generally a common occurrence for any public organization and are not necessarily a result of a planned long-term productivity initiative, the issue regarding such savings is whether they should be counted at all toward the target expenditures. Such savings can also be a function of how quickly the County's human resources department (whose charges to WTD are considered uncontrollable) can complete the hiring process. A long-term productivity gain should be counted if a temporarily vacant position is eliminated as part of the following year's budget.

Other Examples Target and Savings Calculations

After reviewing the targets and expenditure documents, a few other issues were identified that related to specific target calculations.

- ◆ Increasing the target to cover the additional costs related to Tsunami and Katrina Relief Fund Donations – In 2005, a \$73,623 increase to the target was included for donations to the Tsunami Relief and the Katrina Relief Funds. The actual target increase is unknown at this time, because the increases to the target that year for target adjustments were partially offset by a \$244,000 sales tax rebate. This seems like a controllable cost and should not have affected the target.
- ◆ Potential double counting of inflation – Because personnel costs were already increased by COLA as part of the target adjustment, there was a potential that part of the target increase for growth in flex benefits costs after 2005 and PERS costs after 2006 could have been double

counted. The target was increased for flex benefits costs from 2001 through 2009 and PERS costs from 2006 through 2009. Before 2005 the increase to the target for flex benefits had been adjusted so that inflation was not double counted, but there was no evidence of this happening after 2005. In 2008 \$30,158 was double counted, and in 2009 \$109,940 was double counted. When WTD calculates the 2010 comparison of actual to targets the double counting will be corrected.

- ◆ Difficulty in accommodating changes in technology/operations– Because the C-7 process was based on costs and technologies from 2000, a significant change in operations would require modifications to the way C-7 adjustments were made. For example, a significant reduction in the baseline electricity consumed by the South Plant in 2002 and 2004 was not captured because the electricity costs are based on the number of residential equivalent customers (RCEs) rather the amount of electricity used, and so the C-7 calculations were modified to account for this reduction in the amount of electricity used by the South Plant.
- ◆ Increasing the target to cover the additional costs for offsite emergency wastewater spills – From 2006 through 2009, the target was increased to pay for additional costs to the Environmental Lab related to offsite emergency wastewater spills. These increases ranged from a high of \$36,785 in 2008 to a low of \$17,991 in 2009.

Audits by Executive Audit Services also identified the following issues related to targets and the target setting process:

- ◆ For 2004, the audit found that a \$535,000 tax rebate was incorrectly booked as a reduction to expense, since none of the rebate applied to taxes for 2004. The auditor agreed with division financial management that the countywide compensation reclassifications should be adjustments to the 2004 target budget.
- ◆ For 2007, the audit found two material errors in C-7 target calculations involving cogeneration at West Point and the switch to sodium hypochlorite at South Plant, resulting in an overstatement of \$538,963 in Incentive Fund savings. These errors affected balances for 2005, 2006, and 2007. Also, the audit found that division financial analysis was not able to fully reconcile differences between Productivity Incentive report balances and IBIS records.
- ◆ For 2008, the audit found that both septage and Industrial Waste actual revenues were significantly higher than projected. Without the inclusion of these unexpectedly high revenue adjustments to the target budget, the WTD target would not have been met. Septage revenue increased because a private services provider was out of operation for renovation in 2008. Commercial surcharge revenue increased because of weather. WTD responded by saying it also had cost increases.

CONTROLLABLE VERSUS UNCONTROLLABLE COSTS

Observation 13: After nine years of the Program and the many changes to the target setting process and assumptions, it appears that most costs are adjusted in some manner. One type of cost that has not received a specific target adjustment is for changes in costs related to labor contracts above COLA that were the responsibility of WTD. After the target process was first adjusted in 2004, the volume of target adjustments has increased significantly. There is also a significant portion of the WTD operating budget that is considered uncontrollable and is outside of the target. Also, since 2005 the average annual rate of growth of the total operating budget has increased significantly at an average rate of 4.5% per year.

The original intent of the C-7 process was to make adjustment to the target for costs beyond the control of WTD. Documented factors beyond WTD's control and subject to adjustment included:

- ◆ Influent quantity,
- ◆ Septage quantity treated,
- ◆ High strength industrial waste quantity treated,
- ◆ Chemical unit prices,
- ◆ Electricity unit prices,
- ◆ Inflation,
- ◆ Changes in contracts for which services are purchased,
- ◆ Changes in fiscal policy,
- ◆ Changes to what is considered “inside the fence” of WTD,
- ◆ Load adjustments as indicated by certain non-rate revenues, and
- ◆ Uncontrollable circumstances or changes in WTD.

Uncontrollable circumstances or changes were defined in more detail and included items such as changes in law, labor disputes (other than labor disputes involving only employees of WTD), and the loss of or inability to obtain utility services (e.g., water, fuels, electricity). As part of the original Program Plan, WTD intended to develop service agreements with departments in King County that provided services funded through central charges, such as the Department of Finance. Because service level agreements were not developed with these departments except for Treasury, most of the costs for central charges were considered uncontrollable.

As previously mentioned after the savings target was not met in 2004, a Technical Review Committee was formed to recommend updates and improvements regarding the Productivity Initiative. As a result of the work done by the Technical Review Committee, the processes and procedures for identifying and approving target adjustments for “new work” (i.e., adjustments for things outside of WTD’s control) were modified and began operating in 2006.

After nine years of adjustments, it is difficult to identify what could still be considered a controllable cost. Based on a review of C-7 target adjustments, the majority of WTD’s operating costs were subject to adjustments, including:

- ◆ Cost of living adjustment increase for salaries,
- ◆ Cost of living adjustment increases as well as adjustments above inflation for benefits and pensions,
- ◆ Cost increases and usage adjustments for electricity, chemicals, and polymer, and
- ◆ The majority of central charges.

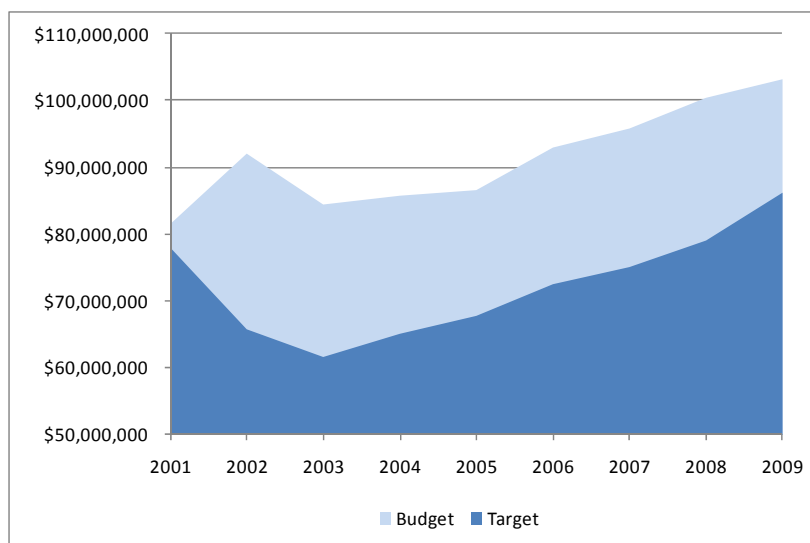
WTD could potentially still be considered responsible for any changes in costs for salaries and wages above a cost of living adjustment (COLA) resulting from contract negotiations. The 2004 Productivity Initiative Report stated that “costs associated with job progressions, merit pay, and wage increases as negotiated in labor settlements were considered within WTD’s control and were not part of the adjustment process.” Recommendations made by the Technical Review Committee for adjusting the target as a result of union contract negotiations were not approved. WTD’s contracts with each of its unions have been renewed at least once during the course of the Program, and a review of all C-7 target adjustments found no specific adjustments for changes to salaries or wages related to those specific contract negotiations.

A review of all C-7 adjustments found only one adjustment related to salary and wages besides the adjustment for COLA: the countywide compensation reclassification. As part of its 2004 audit of the Program, Executive Audit Services found that the effects of these compensation reclassifications should be adjustments to the target.

An analysis of the growth in WTD’s total operating budget from 2001 to 2009 found that the rate of growth increased significantly after 2005. While the operating budget changed from 2001 to 2005 by an annual average of 1.8%, it increased from 2005 to 2009 by an annual average of 4.5%. It should

be noted that the target has been increasing by an annual average of 4% from 2003 through 2009, and that the large drop in the target from 2001 to 2002 was the result of a significant reduction in electricity prices from 2001 to 2002. The budget and target amounts for 2001 through 2009 are displayed below in Exhibit 32.

Exhibit 32
Operating Budget and Target: 2001 through 2009



Source: Key Financial Results of the Productivity Initiative

CONCLUSIONS

The target setting process is complex and cumbersome and requires that a “second” set of financial records be kept to determine whether WTD met its annual operating target and whether there will be Incentive Fund payments. With all the changes made to the C-7 process, there are still a few issues that affect the reasonableness and achievement of the operating target. These issues involve transferring costs and accounting for costs associated with cost savings. Although temporary salary savings are allowed by the Program, determining how to handle temporary salary savings has also been an issue. Most of the savings to meet the operating target have been from salary savings, and such savings have had an impact on whether WTD was able to meet its operating targets. Because temporary salary savings help reduce expenditures to meet the operating target and are eligible as employee savings for the Incentive Fund, these savings are not long-term productivity savings but represent a cost containment measure that can be used to help WTD meet its target.

A primary focus of the Productivity Initiative has been a comparison of operating costs, not total costs, to an adjusted operating target that is used to determine if there are savings that can be divided between the ratepayers and the employee Incentive Fund. There are now very few cost increases that are considered to be within WTD's control except for the original baseline established at the beginning of the Program in 2001. Since the planned savings were implemented by 2005 and the C-7 changes were made in 2006, operating targets have been continually increasing compared to earlier in the Program. Thus, after ten years of implementing the program, key questions about what should be counted as savings include the following:

- ◆ Should operating cost savings be counted only when they actually save the ratepayers money?
- ◆ Should cost savings be sustainable over the long term?
- ◆ Should the Program differentiate between cost containment versus productivity savings?

CHAPTER VI: USE OF THE EMPLOYEE INCENTIVE FUND

The productivity incentive fund was created as a component of the Productivity Initiative. When the productivity incentive fund was created, the only staff that were ineligible to participate in the program were the wastewater division manager and the assistant manager. Each year if there are additional and eligible savings compared to the operating target, the savings are divided evenly between the employees and the ratepayers, and the employee share becomes part of the Incentive Fund. Not all savings go to the Incentive Fund.

The goals of the program were the following:

- ◆ Provide financial incentives to employees to achieve higher than projected savings to the wastewater treatment ratepayers,
- ◆ Encourage teamwork, and
- ◆ Encourage employee involvement in and ownership of the business.

A productivity incentive fund oversight committee was also created and was responsible for overseeing the fund and determining the distribution and use of the fund, subject to the approval of the wastewater treatment division manager. The committee consisted of represented and non-represented employees, as well as WTD management representatives and several ex officio, nonvoting members. The Incentive Fund committee did the following:

- ◆ Review and verify employee savings,
- ◆ Submit savings recommendations to WTD management,
- ◆ Provide recommendations to WTD's Division Director regarding the oversight and management of the Fund,
- ◆ Recommend how to expend funds,
- ◆ Monitor progress of planned savings and efficiencies,
- ◆ Oversee annual report, and
- ◆ Communicate with employees.

Besides employee payouts, guidelines and procedures were also developed for using the Fund for employee recognition activities. These activities included items such as retirements, section celebrations, division-wide events, and recognition awards.

CRITERIA FOR DISBURSING THE FUNDS

Apart from the mandate that 25% of annual employee savings credited to the Incentive Fund be paid out to employees, WTD was free to use the Incentive Fund resources for any approved purposes discussed above.

Criteria for employee payouts were developed over the first two years of the program. All employees of WTD were eligible for a payout, except WTD Division Director and WTD Assistant Division Director. This included all represented and non-represented employees in the wastewater program, including full-time, part-time, and term-limited employees (Ordinance 14941). Payouts to employees could be made from the Incentive Fund the year following a year with employee savings.

To be eligible for a payout, employees needed to be actively working during the savings year for at least 520 consecutive hours. If the employee was not discharged at any time during the savings year for cause or performance after meeting the 520 hour threshold, they would be eligible for a payout. Those working less than the entire year (defined as 2,080 hours) would receive a prorated share of any employee payout for the year, based on the hours they worked that year.

An approval and reporting process surrounding the use of Incentive Funds for activities including retirements, section celebrations, division events, and recognition awards was also developed. As part of this process, spending caps were adopted, such as:

- ◆ A maximum annual amount for section celebrations, with each section authorized to spend up to a specific amount ranging from \$1,300 to \$3,200 a year based on the number of staff,
- ◆ \$10 per employee per year for division events,
- ◆ \$500 per event for retirement events, and a maximum of \$100 for a gift or gift certificate for the retiree, and
- ◆ A maximum of three \$5 gift certificates per employee per year to things such as coffee shops for submitting documentation of savings for the Incentive Fund.

Observation 14: Although the Incentive Fund can be used for a variety of purposes, the Fund has primarily been used to make employee payouts.

The County Council intended that the fund be used to support a variety of incentives including but not limited to the following:

- ◆ Provision of additional training opportunities for employees,
- ◆ Investments in productivity improvement projects,
- ◆ Funding over expenditures on asset management and operating projects,
- ◆ Monetary payments or awards to employees, and
- ◆ Employee awards and recognition.

A review of Incentive Fund transaction information provided by WTD staff for 2001 through 2009 found that the funds were used in accordance to the purpose and rules set forth by the Productivity Initiative Program and County Council. The majority of the Incentive Fund's resources from 2001 to 2009 were used for employee payouts (\$4,320,124) and to cover savings shortfalls (\$555,002) when the savings target was not met in 2004 and 2007. A small amount was also used to pay for employee recognition activities (\$52,661), such as retirements, section celebrations, division events, and recognition awards. A summary of the incentive fund amounts spent by category, as identified by WTD staff, is included below in Exhibit 33.

Exhibit 33
Incentive Fund Expenditures by Category: 2001-2009

Year	Employee Payouts	Covering Savings Shortfalls	Employee Recognition
2001	\$ 818,021	\$ -	\$ -
2002	853,478	-	-
2003	470,944	-	-
2004	-	296,852	4,035
2005	672,653	-	12,199
2006	772,461	-	16,118
2007	-	258,150	13,263
2008	170,061	-	1,792
2009	562,506	-	5,254
Grand Total	\$4,320,124	\$555,002	\$52,661

Source: 2001-2009 WTD Productivity Initiative Reports and Incentive Fund Expenditures 2000-2010

Observation 15: During the Productivity Initiative, there were no penalties related to the performance guarantees from 2001 to 2005, but since 2006 penalties have been assessed against the Fund for either or both NPDES violations and employee safety every year except in 2007.

As part of the Program, performance guarantees with associated Incentive Fund financial penalties were adopted. Their purpose was to motivate WTD to maintain its current service levels while it was reducing its costs. If these performance guarantees were not met during the year, then a financial penalty was assessed against that year's Incentive Fund contribution. These performance guarantees and their associated financial penalties included:

- ♦ NPDES Permit Violations – The Incentive Fund contribution would be reduced by one-twelfth for each month in any given year in which a NPDES permit violation occurred at the South Treatment Plant, West Point Treatment Plant, Carkeek Combined Sewer Overflow Treatment Plant, or the Alki Wet Weather Treatment Plant. The Vashon Treatment Plant was included with this group after WTD's capital improvements were completed. NPDES permit standards were based on weekly and monthly effluent averages, with the monthly standards being more stringent than the weekly standards. A permit violation was documented by the issuance of a Notice of Penalty or Administrative Order by the Washington State Department of Ecology due to exceeding effluent standards. WTD would also pay any fines related to these NPDES permit violations from its operating budget.
- ♦ Effluent Limits – WTD also agreed to specific average annual effluent limits for the South Treatment Plant and the West Point Treatment Plant which were stricter than those mandated by the NPDES Permit. For example, while the NPDES permit required these treatment plants to have weekly and monthly average suspended solids of no more than 45mg/l and 30 mg/l, respectively, the effluent limit adopted by the Program was an annual average suspended solids of no more than 24 mg/l. Because the effluent limits were an average for an entire year, it was

possible to have an NPDES permit violation in a given month and still meet the effluent limits for the year. For any year that these effluent limits were not met, the Incentive Fund contribution would be reduced by 33% for that year.

- ♦ Safety – As a way to guarantee worker safety, WTD agreed that they would not exceed an average of 22 time-loss accidents per rolling three-year period, based on the current number of employees and facilities in service. For any year that this was exceeded, the Incentive Fund contribution would be reduced by 5%.

There were no penalties assessed for the first five years of the program from 2001 through 2005. From 2006 through 2009, however, there were penalties assessed in three out of the four years. These were for the NPDES permit in 2006, 2008, and 2009 and for employee safety in 2008. These penalties are displayed below in Exhibit 34.

Exhibit 34
Performance Guarantee Penalties: 2001-2009

Year	NPDES Permit	Effluent Limits	Employee Safety	Total Penalties
2001	\$ -	\$ -	\$ -	\$ -
2002	-	-	-	-
2003	-	-	-	-
2004	-	-	-	-
2005	-	-	-	-
2006	\$137,029	-	-	\$137,029
2007	-	-	-	-
2008	\$130,816	-	\$78,490	\$209,306
2009	\$136,365	-	-	\$136,365

Source: 2001-2009 WTD Productivity Initiative Reports

It was unclear whether WTD met its performance guarantees for NPDES in 2004 and 2007 because there were no employee savings for these years and this information was not specifically measured in WTD's balanced scorecard. Effluent limits and employee safety were measured in WTD's balanced scorecard, and the performance guarantees were met for these items in 2004 and 2007. A review of the 2004 and 2007 Productivity Initiative Annual Reports found no evidence that the NPDES performance guarantee was not met in these years.

PRIOR AUDIT FINDINGS

As previously mentioned an audit for 2007 by King County Executive Audit Services found two material errors in C-7 target calculations involving cogeneration at West Point and the switch to sodium hypochlorite at South Plant. The cumulative impact of these errors affected Incentive Fund balances for 2005, 2006, and 2007, and resulted in an overstatement of \$538,963 in Incentive Fund savings. According to an analysis conducted during the audit, these errors resulted in an overpayment of \$280,814 for the 2006 employee payout. However, this overpayment did not result in a negative fund balance for 2006.

After correcting for this overstatement of \$538,963, the Incentive Fund's fund balance was reduced to \$75,590 for the end of 2006. In 2007 the annual budget target was not met, which meant the Incentive Fund was liable to make up the difference. This resulted in a negative fund balance of \$194,599 for 2007. This negative fund balance was corrected in 2008 by netting it against the \$680,245 of 2008 employee savings, reducing the 2008 employee savings to \$485,646. This reduced 2008 employee savings was used to fund the \$170,061 employee payout, with the remainder replenishing the Incentive Fund's reserves and supporting employee recognition activities. Because 2008 employee savings were used to cover the 2007 Incentive Fund deficit, any subsidy of the Incentive Fund by the Wastewater Operating Fund in 2007 was corrected in 2008.

CONCLUSIONS

The Incentive Fund has been used primarily for employee payouts and to cover deficits in two of the nine years. As previously noted, WTD met its performance standards between 2001 and 2005, but since 2006, it has not been meeting all of its performance standards. As a result, a number of performance penalties have been assessed against the Incentive Fund before any employee payouts have been made.

CHAPTER VII: THE WASTEWATER TREATMENT DIVISION'S INTERNAL ASSESSMENT

Besides the independent review of the Productivity Initiative Pilot Program, WTD also reviewed the Initiative, and the conclusions and recommendations will be incorporated into a Productivity Initiative Comprehensive Review Report that is being prepared for the County Executive and subsequent submittal to the County Council. WTD's internal assessment process started in 2009 when WTD assembled a Comprehensive Review Team to lead and advise the internal review. Besides reviewing the historical documentation, the review process included a survey of all WTD employees, follow-up focus groups with all employee work teams and informal and formal discussions with management and staff involved in program development and implementation. FCS GROUP's comments about WTD's evaluation from its internal assessment are based on a draft of the internal assessment provided by WTD on January 18, 2011. WTD evaluated the Productivity Initiative Pilot Program based on the Program's overall objectives and WTD's balanced scorecard results during the Program. There were also findings and recommendations based on the employee involvement and interview activities. FCS GROUP's comments involve only conclusions from the chapter on "Evaluation of Program Success."

As discussed and illustrated in the previous chapters, FCS GROUP's assessment focused not only on the overall objectives of the Program, but also on WTD's specific vision and goals that were established as part of the Program's original plan and as the basis for the enabling legislation. Consequently, there are some slight differences of opinion or variations between FCS GROUP's review and WTD's assessment conclusions. In addition, we reviewed the balanced scorecard results, but did not verify the figures shown in the scorecard. Exhibit 35 provides a table that shows WTD's conclusions and FCS GROUP's comments concerning the conclusions and statements made in the evaluation of program success chapter of the internal assessment.

Exhibit 35
FCS GROUP's Comments on WTD's Internal Assessment Conclusions
About the Productivity Initiative Pilot Program
(Comments based on draft WTD Internal Assessment, dated January 18, 2011)

WTD Objective and Conclusion	FCS GROUP Comments
<p>Use private sector management and operational techniques to reduce costs, be more efficient, and improve WTD's services.</p> <p>WTD Conclusion: Objective Met</p>	<p>WTD has mainly achieved the goal of reducing costs and in using private sector and best practices to reduce costs and become more efficient.</p> <ul style="list-style-type: none"> ◆ WTD has implemented many cost saving practices, and according to our private sector expert, many of these practices represent ones that can be expected to come from an organization focused on continuous improvement and efficiency. Twenty five of the 110 cost savings items were specifically highlighted as a best practice, good management practice, or innovative idea. ◆ Costs have been reduced and the planned savings practices were implemented to help WTD achieve the Program's goal of a 12% reduction in 2000 costs by 2005. Except for two years, 2004 and 2007, actual expenditures were less than the operating targets. Except for total costs, WTD's operating cost ratios compared to four peer utilities have not generally increased as much as the peer utilities since 2002. ◆ For improvement in services, see comments about business practices measures.
<p>Demonstrate King County's willingness to respond to increasing public demand for evidence that government services are being delivered as cost effectively as possible.</p> <p>WTD Conclusion: Objective Met</p>	<p>As part of demonstrating WTD's efficiency, a goal of the Productivity Initiative was to hold the portion of the sewer rate dedicated to ongoing operations to less than or equal to the 2000 portion of the rate, adjusted for inflation. Because WTD does not calculate its rate by each component of its costs (e.g., operating, capital, or debt service), the operating portion of the rate had to be estimated. Depending on how non-rate revenue is allocated to help offset operating costs, the operating portion of the rate either slightly exceeded (2.6% higher) or was slightly lower (-1.6%) than inflation. Regardless of how the non-rate revenue was allocated, our analysis showed that when the initial planned savings were implemented between 2001 and 2005, the operating portion of the rate increased lower than inflation for the 2001-2005 period, but from 2006 to 2009, the operating portion of the rate has exceeded the Seattle area's inflation rate.</p>

WTD Objective and Conclusion	FCS GROUP Comments
<p>Allow for additional opportunities for labor and management to work together.</p> <p>WTD Conclusion: Objective Met</p>	<p>Based on a limited number of interviews and discussions with staff, the Program provided opportunities for labor and management to work together on special technical committees and ongoing committees such as the Incentive Fund oversight committee.</p>
<p>Maintain year 2000 staffing levels, even while adding new facilities.</p> <p>WTD Conclusion: Objective Met</p>	<p>Based on the current position counts, WTD has been able to maintain the 2000 staffing levels while adding the Vashon and Carnation treatment plants to its operations. Positions are also being filled to support the new Brightwater plant without adding more positions than what existed for 2000.</p>
<p>Create an incentive program for employees to make process improvements and meet management's challenge to become the best publicly run wastewater utility in the nation in five years and be competitive with a privately operated utility in 10 years.</p> <p>WTD Conclusion: Incentive program was created and engaged employees in making process improvements. No assessment and criteria to determine whether WTD is the best publicly run wastewater utility or comparable to private utilities.</p>	<ul style="list-style-type: none"> ◆ The Incentive Fund was created and has rewarded employees every year except for 2004 and 2007. ◆ Whether WTD is the best publicly run wastewater utility and is competitive with a privately operated utility was not evaluated because of the lack of clear criteria and the limited scope of this assessment. However, WTD's balanced scorecard performance measures were established at high levels and were designed to monitor how well WTD's programs and strategies for the Program were working. See balanced scorecard comments.

Exhibit 35 (Continued)
FCS GROUP's Comments on WTD's Internal Assessment Conclusions
About the Productivity Initiative Pilot Program

WTD Balanced Scorecard Category and Conclusions	FCS GROUP Comments
<p>Financial Performance</p> <ul style="list-style-type: none"> ◆ WTD met operating budget targets except in 2004 and 2007. ◆ WTD's debt service coverage ratio exceeded its target every year. ◆ WTD's rates were 40 and 49.5% of the highest comparable rate of other agencies. ◆ WTD rates have remained at or below those projected in 1998 by the RWSP except for 2009. 	<ul style="list-style-type: none"> ◆ Based on information provided by WTD, the operating targets were met except for the two years mentioned. The scope of work for the assessment did not include a FCS GROUP audit or review of the annual target calculations and expenditures in detail, but other non-WTD staff did review the annual reports and figures. FCS GROUP did review the target setting process and made several observations in previous chapters. ◆ Overall, the actual portion of the rate devoted to WTD's operations increased at about the rate of inflation for the Seattle area. When the initial planned savings were implemented between 2001 and 2005, the operating portion of the rate increased lower than the Seattle area's inflation rate, but from 2006 to 2009, the operating portion of the rate has exceeded the Seattle area's inflation rate. Compared to the RWSP forecasts from 1998, the actual total rates from 2002 to 2009 were higher than the 1998 forecasted RWSP rates in 2002, 2005, 2007, and 2009. The differences ranged between \$.15 and \$1.80. In the four years where the rate was lower, the differences ranged between \$.74 and \$.93.
<p>Business Practices</p> <ul style="list-style-type: none"> ◆ All permit compliance targets were met or were met within 90 to 99% of target. ◆ For operational measures, avoidable sanitary sewer overflows were slightly below the target in four years and above the limit in five years. CSO overflows have been consistently lower than the target. ◆ 100% of WTD's biosolids are recycled every year. ◆ The volume of reclaimed water produced has consistently exceeded the target. ◆ WTD fell below the target for recovery of digester gas for reuse in the past few years. ◆ The target for reducing energy consumption was exceeded in 2008 and 2009. ◆ The targets for the quality of effluent were met every year. 	<ul style="list-style-type: none"> ◆ For permit compliance, WTD's statement is correct but compared to its targets for those compliance categories, the targets were not always met. It met its target in seven of the nine years for effluent limits, and it never met the target for reporting compliance before dropping the measure in 2008. For air quality compliance WTD met its target five of the nine years. ◆ For avoidable sanitary sewer overflows, WTD was significantly over the target in five of the nine years. The target is seven overflows per year, and the five years over target, the overflows were 18, 20, 19, 11, and 12.

WTD Balanced Scorecard Category and Conclusions	FCS GROUP Comments
<p>Customer Focus</p> <ul style="list-style-type: none"> ◆ The results for viewing the treatment plants as good neighbors range from 64% to 78%. The highest percentages occurred in the first three years of the Productivity Initiative. ◆ The target was met or nearly met in seven of the nine years for the local agency ratings of the quality of contract services and customer satisfaction. ◆ Although the ratings for local agency satisfaction with MWPAAC have been below the target in the three years the measure has been in effect, the ratings have been steadily improving from 86% of the target in 2007 to almost 99% in 2009. 	<p>WTD has generally not met all its performance targets for customer focus.</p> <ul style="list-style-type: none"> ◆ The good neighbor target has not been met in five of the eight years that the survey has been conducted. The target was met in the first three years of the Program. ◆ For the quality of contract services and customer service satisfaction, the targets for each category have only been met twice. For quality of contract services, there is only one year that might be considered nearly met, and for customer service satisfaction there are three years that might be considered nearly met.
<p>Employee Management</p> <ul style="list-style-type: none"> ◆ All time loss injuries in 2008 and 2009 met the three day criterion established in 2008. ◆ Targets were not met for satisfaction with workplace safety, but satisfaction with workplace safety was consistently close to the target (average rating was 3.84). ◆ Targets were not met for overall satisfaction with their jobs, but the average rating for overall satisfaction with their jobs was 3.69, with the lowest ratings occurring in 2001 and 2008. ◆ Targets were not met for a respectful workplace but the ratings for respectful workplace for 2008 and 2009 (not included on balanced scorecard before 2008) were 3.99 and 3.85, respectively. ◆ The target for employee retention was exceeded in all nine years. ◆ The percentage of employees with certifications and licenses was about 34% and 36% in 2008 and 2009, respectively (the only years measured on the balanced scorecard). Both years were over the target of 33%. ◆ Three other survey items that relate to how the Productivity Initiative affected employees were tracked on the balanced scorecard through 2007: (1) rating of innovation (measured only in 2004–2007), (2) spirit of teamwork, and (3) satisfaction with participation in decision-making. All three 	<p>WTD has not met all its performance targets for employee management.</p> <ul style="list-style-type: none"> ◆ The ratings for innovation, spirit of teamwork, and satisfaction with participation in decision-making never made their targets between 2001 and 2007 when they were discontinued.

WTD Balanced Scorecard Category and Conclusions	FCS GROUP Comments
<p>consistently met targets, with only one exception in 2005 (participation in decision-making).</p> <ul style="list-style-type: none">◆ Other survey items that are not as closely tied to the initiative were also tracked through 2007: satisfaction (1) with supervisor communication and support, (2) with leadership and management, and (3) with training and development. These three items were consistently below targets, but ratings for all three steadily rose from the 2001 ratings to a peak in 2005 and then dipped slightly in 2006 and 2007.	

APPENDIX A BALANCED SCORECARD RESULTS

WTD Balanced Scorecard 2000-2009

WTD uses a Balanced Scorecard (BSC), a performance measurement tool often used in public agencies and private business, to measure overall performance. The BSC ensures that Productivity Initiative takes into account different aspects of our work, including financial performance, business practices, customer focus and employee management. The BSC targets are set to be very aggressive and comparable to results reflecting the performance of the best wastewater programs in the nation.

OLD BALANCED SCORECARD MEASURES 2001-2007		BALANCED SCORECARD MEASURES - 2008 UPDATED		2009 Target	2009 Data	2008 Data	2007 Data	2006 Data	2005 Data	2004 Data	2003 Data	2002 Data	2001 Data
FINANCIAL PERFORMANCE QUADRANT													
	Operating cost per lb. of pollutants (BOD & TSS) removed NTET*		TBD	***	\$0.3537	\$0.3229	\$0.3425	\$0.3083	\$0.3037	Not measured prior to 2004			
	Productivity Operating Budget NTET*		TBD	***	\$77,498,207	\$75,666,677	\$71,449,761	\$65,233,984	\$65,697,769	\$60,744M	\$60,43M	\$68.9M	
Contribution to Productivity Incentive Fund	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	\$0	\$772,461	\$722,653	\$0	\$479,994	\$835,478	\$1,381,000		
	Total debt service coverage ratio		>1.15	***	1.23	1.19	1.28	1.22	1.30	1.41	1.77	1.3	
	Sewer rate compared with other agencies NTET*		<75% of highest comparable rate	45.9% of highest comparable rate	40% of highest comparable rate	Not measured prior to 2008							
	Annual rate increase compared with inflation NTET*		< inflation rate	\$31.90 (24% higher than CPI adjusted rate)	\$27.95	Not measured prior to 2008							
	Accomplishment rate on capital expenditures (based on the adopted plan)		≥90% average PPD & BW	88%	95.00%	Not measured prior to 2008							
BUSINESS PRACTICES QUADRANT													
Permit Compliance Measures													
	% compliance with NPDES permit effluent limits		100%	100%	100%	100%	100%	100%	100%	99.95%	100%	99.55%	
% NPDES reporting compliance	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	99.30%	99.33%	99.48%	99.45%	99.50%	99.60%	99.70%		
	# of NPDES Permit Enforcement Actions - Treatment and Conveyance NTET*		0	1	1	Not measured prior to 2008							
	# of NPDES Construction Stormwater Permit Notices of Violation NTET*		0	0	0	Not measured prior to 2008							
	% compliance with air quality permit		100%	92.3%	97.50%	98.13%	100%	100%	99.49%	100%	100%	100%	
			100%	100%	99.82%	Not measured prior to 2008							
Operational Measures													
	# acres of sediments cleaned up****		21.1 acres	21.1 acres	14.3 acres	Not measured prior to 2008							
	Achieve 2% energy conservation (normalized) per year		>2%	***	***	Not measured prior to 2008							
# Marine Sediment Sites Meeting State Quality Standards (target > or = 7)	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	7	7	7	7	7	7	7	7	
# of wet weather sanitary sewer overflows (target =0)	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	18	11	0	0	2	0	2	0	
	# of avoidable sanitary sewer overflows NTET*		≤7	18	6	20	19	5	6	11	5	12	
	% of CSOs to total flow NTET*		<3.00%	0.32%	1.30%	1.70%	1.12%	1.40%	2.00%	0.63%	no data	2%	
Resource Recovery Measures													
	% digester gas recovered for reuse		>75%	63%	65.72%	68.50%	73%	75%	76%	86%	84%	76%	
	% biosolids recycled		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Reclaimed water (million gallons)		>260.00	309.5	274.2	292	259	264.60	268.07	282.4	304	290	
Effluent Non-Degradation Measures													
	% of BOD/COD NPDES limit NTET*		<80.00%	42.30%	43%	43.50%	31.00%	41.01%	42.18%	43%	43%	46.80%	
	Fecal Coliform annual geometric mean (Coliform forming units) NTET*		<175	14	13	15	18	18	21	13	11.1	27.7	
	Total suspended solids mg/L NTET*		≤24 mg/L	11 mg/L	13 mg/L	14 mg/L	12 mg/L	13.8 mg/L	16.6 mg/L	22 mg/L	19.1 mg/L	12.6 mg/L	
CUSTOMER FOCUS QUADRANT													
	Component agency response to survey		>50%	44%	62%	38%	21%	85%	29%	42%	45%	42%	
	Quality of contract services rated by local sewer agencies (1-5)		≥4	3.53	3.31	3.62	3.29	3.38	4.66	3.69	3.93	4.08	
	Customer service satisfaction by local sewer agencies (1-5)		≥4	3.68	3.92	3.92	2.29	3.76	4.25	4.08	3.57	3.92	
	Component Agency satisfaction with MWPAAC process (1-5)		≥4	3.83	3.67	3.44	Not measured prior to 2007						
	Good neighbor survey (residents and businesses who view WTD as a good neighbor)		>75%	67.70%	N/A**	70.50%	69%	64%	65%	78%	76%	75%	
EMPLOYEE MANAGEMENT QUADRANT													
	% employees retained		>91%	92.80%	93%	93%	94.40%	95.6%	94.7%	95.80%	94.50%	94.20%	
Hours of Training per Employee (target ≥50)	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	53.66	51.11	45.17	48.39	55.72	24.2	no data		
	% of employees with certifications/licenses		>33%	36.18%	34.07%	Not measured prior to 2008							
Safety-# Lost Time Accidents (target <22)	Measure deleted in 2008 by WTD management - not a useful metric^		N/A		16	24	18	20	24	21	13		
	Safety- % of time loss claims transferred to transitional duty assignments within 3 working days of medical release		>80%	***	100%	Not measured prior to 2008							
	Safety-employee satisfaction with workplace safety (1-5)		≥4	N/A**	3.94	3.85	3.85	3.87	3.88	N/A**	3.8	3.69	
	Overall satisfaction with job (1-5)		≥4	N/A**	3.44	3.84	3.84	3.76	3.72	N/A**	3.68	3.56	
	Employee rating of respectful workplace (1-5)		≥4	N/A**	3.85	3.99	Not measured prior to 2007						
	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.85	3.66	3.85	3.65	3.65	Not measured prior to 2004			
Employee Rating of Innovation	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.58	3.56	3.62	3.51	N/A**		3.53	3.29	
Employee Satisfaction w/Supervisor Communication and Support	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.2	3.27	3.4	3.16	N/A**		3.15	2.99	
Satisfaction w/ Leadership and Management	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.83	3.73	3.9	3.71	N/A**		3.73	3.65	
Spirit of Teamwork	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.7	3.72	3.5	3.75	N/A**		3.76	3.65	
Satisfaction w/ Participation in Decision Making	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured	3.27	3.25	3.3	3.23	N/A**		3.08	2.88	
Satisfaction w/ Training and Development	Measure deleted in 2008 by WTD management - not a useful metric^		N/A	No longer measured									

LEGEND

Met target (100% performance to target ratio)	
Near target (90-99% performance to target ratio)	
Needs attention (below 90% performance to target ratio)	

Notes:

*NTET = Not to Exceed Target
**Survey not conducted that year, no data available.
***Data not available at time of printing.
****The target for this measure is a cumulative target for acres cleaned up over a 2 year period from 2008-2009. In 2008 14.3 acres were cleaned and
*If a measure was deleted - it was due to WTD management decision that it was not a useful metric for guiding operations.

APPENDIX B PEER SURVEY

Review of the King County Wastewater Treatment Division's Productivity Initiative Pilot Program

Benchmarking Survey Questionnaire

The Wastewater Treatment Division at the King County Department of Natural Resources and Parks in the Seattle, WA region has an efficiency program that is currently undergoing an external review by FCS GROUP at the request of the County Council. As part of this review, benchmarking data is being collected from five organizations that are somewhat comparable to King County, including: the City of Portland, East Bay Municipal Utility District, Orange County Sanitation District, Sacramento Regional County Sanitation District, and Metropolitan Council Environmental Services (Minneapolis/St. Paul).

The costs and metrics listed below will be used to compare King County to the other jurisdictions for 2009 or the most recent completed fiscal year. They are based on data collected as part of the National Association of Clean Water Agencies' (NACWA) Financial Survey, and data from previous surveys (i.e. 2008, 2005, and 2002) will also be used in this comparison. To help keep the data comparable between previous years and other organizations, please follow the 2008 NACWA Financial Survey's data guidelines when collecting this information. (See Appendix F of the 2008 NACWA Financial Survey for the data guidelines and related questionnaires).

	Data	2009 Actuals (or your most recently completed fiscal year)	Corresponding 2008 NACWA Survey Question #
1.	Total Expenditures		B.3. <i>Total Expenditures</i>
2.	Total Operations and Maintenance Expenditures*		B.3. <i>Operation and Maintenance</i>
3.	Average Daily Flow (MGD) to treatment plants		A.6. <i>E. Average Flow to Plant(s)</i>
4.	Total FTEs		D.2. <i>Total</i>
5.	BOD Influent/Effluent (mg/l)		A.9. <i>BOD</i>
6.	Suspended Solids Influent/Effluent (mg/l)		A.9. <i>Suspended Solids</i>

**Note: the 2008 NACWA Financial Survey guidelines for calculating Operations and Maintenance expenditures are included on the next page. Other expenditure types were also included for reference.*

If you could please provide your data to us by the end of Tuesday, September 28th, it would be greatly appreciated. Once this benchmarking survey is completed, the information will be provided to all participating organizations for your records. If you have any questions/concerns, please feel free to contact Nathan Reese (Project Consultant) at FCS GROUP (425) 867-1802 x 237 or Dave White (Strategy Policy and Government Relations Officer) at King County (206) 263-0467.

2008 NACWA Financial Survey Guidelines for Calculating Expenditures

(Source: 2008 NACWA Financial Survey APPENDIX F page 354)

Operations and Maintenance (O&M) expenses are the day-to-day costs of providing your agency's services. Including: labor, payroll taxes, retirement system contributions, insurance premiums, electrical energy, chemicals, supplies, replacement parts, repair services, fuel and other vehicle operating costs, communications services, other utilities, permit fees, advertisements, public relations, travel and mileage expenses, training costs, reference materials, postage and delivery services, bad debt, legal services, accounting services, laboratory services, etc.

Capital Improvement expenses include:

- Capital asset replacement costs for replacing capital assets that have reached their useful lives, including treatment plant components, collection system components, vehicles, office equipment, etc. These expenses include associated labor, architectural/engineering services, legal services, financial services, permit fees, etc. These expenses do not include cyclical maintenance that should be included as O&M expenses.
- Capital asset acquisition costs for acquiring new assets (not replacements) that are intended to serve existing customers. These expenses include associated labor, architectural and/or engineering services, legal services, financial services, permit fees, etc. An example of this type of expense would be the purchase of new UV disinfection equipment that would take the place of existing chlorination equipment. This new equipment would require a new balance sheet entry.
- Capital facility expansion costs paid for the construction of new treatment plant and collection system components required to serve new areas or new users. These expenses include associated labor, architectural/engineering services, legal services, financial services, permit fees, etc.

Debt Service expenses include the principal and interest paid on borrowed funds.

PILOT or Franchise Fees: Payments in Lieu of Taxes (PILOT) are payments made by a public utility to finance goods or services provided by a city/county government and are similar to the tax payments that would be made by a private utility. Franchise fees are charges levied by a city/county government on a utility for the use of city/county streets and right of ways, and other properties for locating pipes, access points, etc., and for the right to do business in the city/county.

Miscellaneous and Other: Please include other expenditures not covered under O&M, capital improvement, debt service, or PILOT/franchise fees.

	AAA	BBB	CCC	DDD	King County WTD
2002 NACWA (FY 2001 Data)					
Total costs per million gallons treated	\$ 2,405.68	\$ 2,370.53	\$ 1,803.89	\$ 3,069.19	\$ 5,486.71
O&M Costs per million gallons treated	\$ 796.38	\$ 826.93	\$ 694.06	\$ 1,297.03	\$ 1,129.19
O&M Costs per ton BOD removed	n/a	\$ 1,228.65	\$ 1,124.61	n/a	\$ 1,388.66
O&M Costs per ton TSS removed	\$ 880.08	\$ 1,277.73	\$ 967.69	\$ 1,239.20	\$ 1,283.36
FTEs per billion gallons treated	7.83	5.40	5.47	9.88	4.88
2005 NACWA (FY 2004 Data)					
Total costs per million gallons treated	\$ 3,114.59	\$ 2,643.50	\$ 3,112.52	\$ 3,640.46	\$ 6,210.41
O&M Costs per million gallons treated	\$ 1,069.80	\$ 1,055.64	\$ 1,113.73	\$ 1,613.81	\$ 1,382.77
O&M Costs per ton BOD removed	n/a	\$ 1,541.72	\$ 1,526.19	n/a	\$ 2,013.35
O&M Costs per ton TSS removed	\$ 1,147.86	\$ 1,647.05	\$ 1,265.79	\$ 1,392.10	\$ 1,526.70
FTEs per billion gallons treated	7.67	5.48	6.65	10.43	9.67
2008 NACWA (FY 2007 Data)					
Total costs per million gallons treated	\$ 3,169.18	\$ 3,169.38	\$ 3,067.78	\$ 4,716.54	\$ 8,434.02
O&M Costs per million gallons treated	\$ 1,076.23	\$ 1,484.40	\$ 1,734.82	\$ 2,027.40	\$ 1,394.16
O&M Costs per ton BOD removed	n/a	\$ 1,726.34	\$ 1,955.92	n/a	\$ 1,730.49
O&M Costs per ton TSS removed	\$ 1,158.39	\$ 1,806.96	\$ 1,563.42	\$ 1,157.59	\$ 1,617.47
FTEs per billion gallons treated	7.26	8.29	7.82	12.03	8.71
2010 Benchmarking Survey (FY 2009 Data)					
Total costs per million gallons treated	\$ 3,704.84	\$ 7,826.17	\$ 3,062.59	\$ 5,296.80	\$ 9,518.53
O&M Costs per million gallons treated	\$ 1,327.28	\$ 1,791.21	\$ 1,771.85	\$ 2,038.19	\$ 1,370.04
O&M Costs per ton BOD removed	n/a	\$ 2,164.40	\$ 2,005.21	n/a	\$ 1,554.11
O&M Costs per ton TSS removed	\$ 1,288.63	\$ 2,069.11	\$ 1,522.95	\$ 1,613.12	\$ 1,578.47
FTEs per billion gallons treated	8.26	8.03	7.89	11.77	7.95

APPENDIX C ATTACHMENT C-7

INTRODUCTION AND HISTORY

The Program's target setting process has been modified several times over the years. Many of the more significant changes to the program occurred in 2006. These changes were the result of work performed by a Technical Review Committee (TRC) during 2005 and 2006. The TRC was formed in 2005 to conduct a review and recommend updates and improvements to the Program. This was in part a response to WTD not meeting its target in 2004. The Technical Review Committee's modifications to the Program in place by the end of 2006 included:

- ◆ Adding productivity investments costs (i.e., monies spent for training and other investments in productivity) as adjustments to the target.
- ◆ Revising the way the target was adjusted for "new work" costs (i.e., additional operating costs resulting from work WTD was directed to add since 2000). This included a revised process for WTD to approve new work.
- ◆ Modifying the amount of the target that was adjusted by CPI and COLA by using the actual percentage breakdown between personnel and other expenditures, instead of a fixed percentage used previously.
- ◆ Using actual flow for adjusting costs for changes in electrical usage by West and East offsite facilities instead of changes in RCEs.

Other significant changes and adjustments to the Program not related to the work of the Technical Review Committee are listed below in chronological order.

- ◆ In 2001, the employee payout criteria were developed. The payout from employee savings was extended to both operating and capital funded employees. Eligibility criteria were refined further in 2002.
- ◆ In 2004, the duties of administering the Program were shifted from a dedicated Senior Project Administrator to other members of the Directors Office, and the position was then cut from the budget.
- ◆ In 2004, policies regarding use of Incentive Fund for employee recognition were approved (e.g., refreshments and gifts for retirements, individual section events, and Productivity Initiative recognition awards).
- ◆ In 2005 and 2006, the Capital Productivity Pilot Program began, which included the major Capital Pilot projects (2005), Asset Management Pilot Project (2006), and the Small In-House Capital Construction Projects (2005).
- ◆ In 2006, a policy of reporting salary savings for vacant positions at the level budgeted for a new hire was established as well as procedures for checking the accuracy of computations.
- ◆ In 2007, a new category of savings called "labor savings" was identified. These savings represented the value of time made available through more efficient work practices, but were not included as employee savings eligible for the incentive fund.
- ◆ In 2008, performance scorecard measures were refined or modified.
- ◆ In 2008, WTD stopped reporting the annual number of time loss accidents in the balanced scorecard results. As mentioned (in the previous section), a penalty of 5% was supposed to be levied against the employee savings for safety violations based on the results of this measure. 2008 was the first year this penalty was incurred, and WTD stopped reporting this measure in the same year. The information is now a footnote in the annual report.

ANNUAL BUDGET TARGETS AND ADJUSTMENT METHODS

As Amended -- May 20, 2002

The WWP intends to perform the services that it directly controls for a fixed cost (as adjusted for inflation) for the term of this Pilot Program. Costs that are beyond the control of the WWP shall be subject to an annual adjustment. Table C-7.1 contains the WWP's annual budget targets. The WWP's annual budget targets in the table are based upon Year 2000 budget conditions and an assumed inflation rate of 3 percent. The annual budget targets are then adjusted for estimated business plan savings, assumptions for operating costs of new facilities (Table C-7.2), and productivity investment costs. Table C-7.3 lists the assumptions and conditions that will form the basis for annual adjustments to the WWP's annual budget targets. Factors beyond the WWP's control that may result in adjustments to the estimated cost are:

- Influent quantity (represented by RCEs)
- Septage quantity treated
- High strength industrial waste quantity treated
- Chemical unit prices
- Electricity unit prices
- Inflation
- Changes in contracts for which services are purchased
- Changes in fiscal policy
- Changes to what is considered "inside the fence" of the WWP
- Load adjustments as indicated by certain non-rate revenues
- Uncontrollable circumstances or changes in the WWP scope of services

The level of treatment activity as often expressed in terms of load, can affect the amount of non-rate revenue and the budget targets. Load adjustments occur where cost recovery is used to bill customers and changes in revenues reflect the increased or decreased costs to the WWP. For example, the WWP operates a co-generation facility that produces electricity from digester gas and then sells the electricity to the local utility. The revenues are used to reduce the rates. Other similar revenue generating activities include the sale of biogas revenues.

The costs associated with the generation of these additional revenues are included in the WWP's annual budget targets. To assure that these revenues are maximized, and that operational cost savings are not achieved to the detriment of revenues, an annual adjustment will be made to WWP's annual budget targets to reflect changes in these revenues as compared to the level of revenues in the base year. This adjustment provides the incentive to the WWP to increase operating costs if the increase can be justified by the increased revenues. Conversely, if the WWP reduces its operating costs to the detriment of revenues the WWP will not recognize a benefit because the adjustment will reduce the adjusted annual budget targets.

During the term of this Pilot Program the WWP will perform its services at a cost that does not exceed the adjusted annual budget targets as determined in accordance with this attachment. Once annual performance and financial data is available to the WWP such data shall be used to calculate the adjusted annual guaranteed cost for the previous year in accordance with the following formula:

Adjusted Annual Budget Target Formula

Adjusted Annual Budget Target = Year_{20XX} Annual Budget Target for the Wastewater Program (per Table C-7.1) plus each of the following adjustment factors;

- 1) Inflation adjustment to correct assumed budget target annual inflation of 3% per year to actual. Electrical Power, Chlorine, Bisulfite and Polymer are excluded from the calculation as they are adjusted for price escalation separately in section 2);

a) (((Year_{20XX} Annual Budget Target per Table C-7.1 – CYIF * (Sum of Year₂₀₀₀ \$ for Electrical Power, Chlorine, Bisulfite and Polymer)) * (CCOLA – CYIF)) * (Labor Factor)) +

((((Year_{20XX} Annual Budget Target per Table C-7.1 – CYIF * (Sum of Year₂₀₀₀ \$ for Electrical Power, Chlorine, Bisulfite and Polymer)) * (CPI_{20XX}/CPI₂₀₀₀ – CYIF)) * (Non Labor Factor))

Where:

Sum of Year₂₀₀₀ \$ for Electrical Power, Chlorine, Bisulfite and Polymer =
\$9,880,920

CYIF = the Cumulative Current Year Inflation Factor estimated at 3
percent per year (per Table C-7.4)

CCOLA = the Cumulative Cost of Living Adjustment Factor
(per Table C-7.4)

CPI = CPI-U US City Average

CPI_{20XX}/CPI₂₀₀₀ = CCPI

CCPI = the Cumulative Consumer Price Index Factor (per Table C-7.4)

Labor Factor = 0.53

Non Labor Factor = 0.47

2) Unit price adjustments for Electrical Power, Chlorine, Bisulfite and Polymer;

- a) Backout inflation adjustments built into Table C-7.1 for Electrical Power and Chemicals = $(- (CYIF - 1) * (\text{Sum of Year}_{2000} \$ \text{ for Power, Chlorine, Bisulfite and Polymer}))$
- b) Power cost adjustment = $(\text{Year}_{2000} \text{ Power } \$) * (\text{Unit Power Cost}_{20xx} / \text{Unit Power Cost}_{2000} - 1)$
- c) Chlorine cost adjustment = $(\text{Year}_{2000} \text{ Chlorine } \$) * (\text{Unit Chlorine Cost}_{20xx} / \text{Unit Chlorine Cost}_{2000} - 1)$
- d) Bisulfite cost adjustment = $(\text{Year}_{2000} \text{ Bisulfite } \$) * (\text{Unit Bisulfite Cost}_{20xx} / \text{Unit Bisulfite Cost}_{2000} - 1)$
- e) Dewatering Polymer cost adjustment = $(\text{Year}_{2000} \text{ Dewatering Polymer } \$) * (\text{Unit Dewatering Polymer Cost}_{20xx} / \text{Unit Dewatering Polymer Cost}_{2000} - 1)$
- f) Thickening Polymer cost adjustment = $(\text{Year}_{2000} \text{ Thickening Polymer } \$) * (\text{Unit Thickening Polymer Cost}_{20xx} / \text{Unit Thickening Polymer Cost}_{2000} - 1)$

3) Load adjustments for Electrical Power, Chlorine, Bisulfite, Polymer and Biosolids based upon change in Residential Customer Equivalents (RCE's) served;

- a) Power load adjustment = $(\text{Year}_{2000} \text{ Power } \$ / \text{Unit Power Cost}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Power Cost}_{20xx}) * (\text{Marginal Power Demand Factor})$

Where: Marginal Power Demand Factor =

South Plant = 0.46

West point = 0.27

East Offsite = 1.0

West Offsite = 1.0

The Marginal Power Demand Factor reduces the power load adjustment by the percentage of plant power demand which is unaffected by changes in plant loading.

- b) Chlorine load adjustment = $(\text{Year}_{2000} \text{ Chlorine } \$ / \text{Unit Chlorine Cost}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Year}_{20xx} \text{ Chlorine Cost}_{20xx})$
- c) Bisulfite load adjustment = $(\text{Year}_{2000} \text{ Bisulfite } \$ / \text{Unit Bisulfite Cost}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Bisulfite Cost}_{20xx})$
- d) Dewatering Polymer load adjustment = $(\text{Year}_{2000} \text{ Dewatering Polymer } \$ / \text{Unit Dewatering Polymer Cost}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Dewatering Polymer Cost}_{20xx})$
- e) Thickening Polymer load adjustment = $(\text{Year}_{2000} \text{ Thickening Polymer } \$ / \text{Unit Thickening Polymer Cost}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Thickening Polymer Cost}_{20xx})$

f) Variable Biosolids Management Costs load adjustment = $(\text{Year}_{2000} \text{ Variable Biosolids Management } \$ / \text{Unit Variable Biosolids Management Costs}_{2000}) * (\text{RCE}_{20xx} / \text{RCE}_{2000} - 1) * (\text{Unit Variable Biosolids Management Costs}_{20xx})$

4) Load adjustment = $\text{Year}_{20xx} \text{ Revenue } \$ - \text{Year}_{2000} \text{ Revenue } \$$

(note: this load adjustment will need more detail, per changes in spreadsheet)

5) Odor Control adjustment = $\text{Year}_{20xx} \text{ Odor Control } \$ - \text{Year}_{2000} \text{ Odor Control } \$$

Note: These equations are to be repeated for each category (e.g. West Point Power, South Plant Power, West Offsite Power, East Offsite Power, etc.) as shown in Table C-7.3.

Table C-7.1

WWP Annual Budget Targets*

(expressed in millions of dollars)

	2000	2001	2002	2003	2004
Budget Target	60.76	61.64	60.62	60.05	60.31
2005	2006	2007	2008	2009	2010
62.19	64.48	66.23	68.08	70.04	72.08

*This estimate is for the WWP as defined in the Pilot Program Plan. It includes an assumed 3 percent annual inflation factor, estimates of operating costs for future facilities outlined in Table C-7.4 and odor chemical control costs. The actual figure for annual targets will be based on adjustments realized each year.

EXECUTIVE RESPONSE



King County

Dow Constantine
King County Executive

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KING COUNTY AUDITOR

MAR 09 2011

RECEIVED

March 9, 2011

Cheryle Broom
King County Auditor
Room 1033
C O U R T H O U S E

Dear Ms. Broom:

Thank you for the opportunity to comment on the Proposed Final Report (Report) of the Wastewater Treatment Division's (WTD) Productivity Initiative Program (Program). We wish to thank the staff of the County Auditor's Office and their consultants from the FCS Group for working cooperatively with staff from WTD throughout the review. We are particularly appreciative of the efforts taken to clarify many aspects of the Program prior to completing your Report.

We understand that the Report does not contain recommendations, and appreciate the opportunity to comment briefly on the general observations and conclusions. In general, the Report's observations attest to the Program's success in meeting its mandated goals. We particularly note that the observations confirm that there were substantial demonstrable cost savings attributed to the Program over the past ten years and that the Program helped enable WTD to take on significant new work, including being on track to open and maintain the new Brightwater Treatment Plant without increasing the number of full time employees.

The Report also recognized WTD's success at controlling operating costs compared to those of other peer agencies over the same time period. Over the ten years of the Program, WTD has been implementing the Regional Wastewater Services Plan, involving substantial expenditures for extensive capital improvements vital to the prosperity of our region. While making these investments, WTD was successful at controlling operating costs, and we are proud of that accomplishment.

As you know, WTD has been simultaneously conducting its own review of the Program over the course of the last year. WTD's familiarity with the Program as well as of its operations prompts comments on observations in your Report relating to WTD's performance on the balanced scorecard. The balanced scorecard is a tool that WTD established to ensure it maintained service levels for environmental performance and customer and employee

Cheryle Broom

March 9, 2011


Page 2

satisfaction, while implementing the Program's efficiency measures. WTD set aggressive performance targets for these areas, despite the fact that they are inherently difficult to measure and compare over time. For example, WTD faced more regulatory requirements in the latter five years of the program, making the compliance targets much harder to meet. Also, WTD set very high targets for customer satisfaction, which are subject to imprecise survey instruments, and which are influenced by a variety of factors external to WTD's day to day operations.

WTD continues to use the balanced scorecard to monitor performance and identify areas needing attention. While not all the aggressive targets were met, most measures fluctuated but remained high over the period, indicating that WTD has maintained its high level of service over the past ten years while achieving the financial objectives of the Program.

In closing, we again wish to express our appreciation for the process undertaken by your staff and FCS Consultants in conducting this review. We are proud of the accomplishments of the Productivity Initiative, and your review will be useful as we develop recommendations for a potential new Program.

Sincerely,

A handwritten signature in black ink, appearing to read "Dow Constantine", with a long horizontal flourish extending to the right.

Dow Constantine
King County Executive

cc: Fred Jarrett, Deputy County Executive, King County Executive's Office (KCEO)
Rhonda Berry, Assistant Deputy County Executive, KCEO
Christie True, Director, Department of Natural Resources and Parks (DNRP)
Pam Elardo, Division Director, Wastewater Treatment Division, DNRP